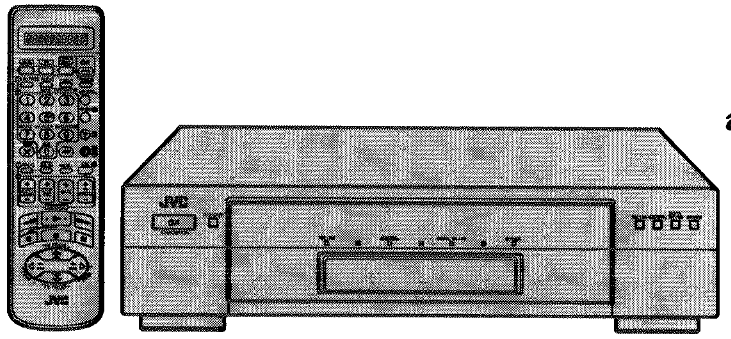
JVC

SERVICE MANUAL

VIDEO CASSETTE RECORDER

HR-S8600EU/S9600EU



TIME JOG & SCAN

Hi-Fi S-VHS 625

ShowView®

SPECIFICATIONS *(The specifications shown pertain specifically to the model HR-S9600EU)*

GENERAL

Power requirement	: AC 220 – 240 V∿, 50/60 Hz
Power consumption	
Power on	: 24 W
Power off	: 5.7 W
Temperature	
Operating	: 5°C to 40°C
Storage	: –20°C to 60°C
Operating position	: Horizontal only
Dimensions (WxHxD)	: 437 x 106 x 352 mm
Weight	: 5.1 kg
Format	: S-VHS/VHS PAL standard
Maximum recording time	
(SP)	: 240 min. with E-240 video cassette
(LP)	: 480 min. with E-240 video cassette

VIDEO/AUDIO

Signal system	: PAL-type colour signal and CCIR monochrome signal, 625 lines 50 fields
Recording system	: DA4 (Double Azimuth) head helical scan system
Signal-to-noise ratio	: 45 dB
Horizontal resolution	: 250 lines (VHS) 400 lines (S-VHS)
Frequency range	: 70 Hz to 10,000 Hz (Normal audio) 20 Hz to 20,000 Hz (Hi-Fi audio)
Input/Output	: 21-pin SCART connectors : IN/OUT x 1, IN/DECODER x 1 RCA connectors: VIDEO IN x 1, AUDIO IN x 1, AUDIO OUT x 1 S-Video connectors: IN x 1, OUT x 1

TUNER/TIMER

TV channel storage capacity	: 99 positions (+AUX position)
Tuning system	: Frequency synthesized tuner
Channel coverage	: VHF 47 – 89/104 – 300/ 302 – 470MHz UHF 470 – 862MHz
Aerial output	: UHF channels 22 – 69 (Adjustable)
Memory backup time	: Approx. 60 min.

ACCESSORIES

Provided accessories	: RF cable, Infrared remote control unit, "R6" battery x 2 S-Video cable

Specifications shown are for SP mode unless otherwise specified.
E.& O.E. Design and specifications subject to change without notice.

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TABLE OF CONTENTS

Section **Title** **Page**

Important Safety Precautions

INSTRUCTIONS

1. DISASSEMBLY

1.1 DISASSEMBLY FLOW CHART 1-1
1.2 HOW TO READ THE DISASSEMBLY AND ASSEMBLY 1-1
1.3 DISASSEMBLY/ASSEMBLY METHOD 1-1
1.4 SERVICE POSITION 1-6
 1.4.1 How to take out the Mechanism and Main board assemblies [HR-S9600EU] 1-6
 1.4.2 How to take out the Mechanism and Main board assemblies [HR-S8600EU] 1-7
 1.4.3 Precautions for cassette loading in the "SERVICE POSITION" 1-8
 1.4.4 Cassette loading and ejection methods in the "SERVICE POSITION"(See Fig. 1-4-3 or Fig. 1-4-6). 1-8
1.5 MECHANISM SERVICE MODE 1-8
 1.5.1 How to set the "MECHANISM SERVICE MODE" 1-8
1.6 EMERGENCY DISPLAY FUNCTION 1-9
 1.6.1 How to display record of an emergency faults 1-9
 1.6.2 Detail of emergency faults 1-9
 1.6.3 How to clear emergency record 1-9
1.7 SYSCON CIRCUIT 1-10
 1.7.1 Syscon CPU pin function (IC3001) 1/2 1-10
 1.7.2 Syscon CPU pin function (IC3001) 2/2 1-11

2. MECHANISM ADJUSTMENT

2.1 BEFORE STARTING REPAIR AND ADJUSTMENT 2-1
 2.1.1 Precautions 2-1
 2.1.2 Checking for Proper Mechanical Operations 2-1
 2.1.3 Manually Removing the Cassette Tape 2-1
 2.1.4 Jigs and Tools Required for Adjustment 2-3
 2.1.5 Maintenance and Inspection 2-3
2.2 REPLACEMENT OF MAJOR PARTS 2-6
 2.2.1 Before Starting Disassembling (Phase matching between mechanical parts) 2-6
 2.2.2 How to Set the Mechanism Assembling Mode 2-7
 2.2.3 Cassette Holder Assembly 2-7
 2.2.4 Pinch Roller Arm Assembly 2-10
 2.2.5 Guide Arm Assembly and Press Lever Assembly 2-10
 2.2.6 Audio Control Head 2-10
 2.2.7 Loading Motor 2-11
 2.2.8 Capstan Motor 2-11
 2.2.9 Pole Base Assembly (supply or take-up side) 2-12
 2.2.10 Rotary Encoder 2-12
 2.2.11 Clutch Unit 2-13
 2.2.12 Change Lever Assembly, Direct Gear and Clutch Gear1 2-13
 2.2.13 Link Lever 2-13
 2.2.14 Cassette Gear, Control Cam and Worm Gear 2-14
 2.2.15 Control Plate 2-14
 2.2.16 Loading Arm Gear (supply or take-up side) and Loading Arm Gear Shaft 2-15
 2.2.17 Take-up Lever, Take-up Head and Control Plate Guide 2-16
 2.2.18 Capstan Brake Assembly 2-17
 2.2.19 Sub Brake Assembly (take-up side) 2-17
 2.2.20 Main Brake Assembly (take-up side), Reel Disk (take-up side) and Main Brake Assembly (supply side) 2-17
 2.2.21 Tension Brake Assembly, Reel Disk (supply side) and Tension Arm Assembly 2-18
 2.2.22 Idler Lever, Idler Arm Assembly 2-18
 2.2.23 Stator Assembly 2-18
 2.2.24 Rotor Assembly 2-19
 2.2.25 Upper Drum Assembly 2-19
2.3 COMPATIBILITY ADJUSTMENT 2-20
 2.3.1 Checking/Adjustment of FM Waveform Linearity 2-20
 2.3.2 Checking/Adjustment of the Height and Tilt of the Audio Control Head 2-22
 2.3.3 Checking/Adjustment of the Audio Control Head Phase (X-Value) 2-22
 2.3.4 Checking/Adjustment of the Standard Tracking Preset . 2-23
 2.3.5 Checking/Adjustment of the Tension Pole 2-23
 2.3.6 Adjustment of the Tension Stud 2-23
 2.3.7 Main Brake Torque Adjustment 2-23

3. ELECTRICAL ADJUSTMENT

3.1 PRECAUTION 3-1
 3.1.1 Required test equipment 3-1
 3.1.2 Required adjustment tools 3-1
 3.1.3 Colour bar signal,colour bar pattern 3-1
3.2 SERVO CIRCUIT 3-2
 3.2.1 PB switching point 3-2
 3.2.2 Slow tracking preset 3-2
 3.2.3 Dynamic drum preset 3-3
3.3 VIDEO CIRCUIT 3-3
 3.3.1 EE Y level 3-3
 3.3.2 SP/LP REC colour level 3-4
 3.3.3 PB Y level (S-VHS/VHS) 3-4
 3.3.4 S-VHS VIDEO EQ 3-5
 3.3.5 D/A level 3-5
 3.3.6 Pilot burst level 3-5
 3.3.7 Auto picture 3-6
3.4 ON SCREEN CIRCUIT 3-6
 3.4.1 Character position 3-6
3.5 AUDIO CIRCUIT 3-7
 3.5.1 REC FM level 3-7
3.6 SYSCON CIRCUIT 3-7
 3.6.1 Timer clock 3-7

4. CHARTS AND DIAGRAMS

NOTES OF SCHEMATIC DIAGRAM 4-1
CIRCUIT BOARD NOTES 4-2
4.1 BOARD INTERCONNECTIONS 4-3
4.2 VIDEO/N.AUDIO SCHEMATIC DIAGRAM 4-5
4.3 ON SCREEN SCHEMATIC DIAGRAM 4-7
4.4 FMA SCHEMATIC DIAGRAM 4-9
4.5 SYSTEM CONTROL SCHEMATIC DIAGRAM 4-11
4.6 SWITCHING REGULATOR SCHEMATIC DIAGRAM 4-13
4.7 TUNER SCHEMATIC DIAGRAM 4-15
4.8 C.BOX CTL SCHEMATIC DIAGRAM 4-17
4.9 TERMINAL(MAIN) SCHEMATIC DIAGRAM 4-19
4.10 VSC SCHEMATIC DIAGRAM 4-21
4.11 MAIN, A/C HEAD AND LOADING MOTOR CIRCUIT BOARDS 4-25
4.12 3D SVHS(VIDEO) SCHEMATIC DIAGRAM 4-27
4.13 3D SVHS(3D/TBC) SCHEMATIC DIAGRAM 4-29
4.14 3D SVHS CIRCUIT BOARD 4-33
4.15 TERMINAL SCHEMATIC DIAGRAM 4-35
4.16 TERMINAL CIRCUIT BOARD 3-37
4.17 DEMODULATOR SCHEMATIC DIAGRAM 4-39
4.18 DEMODULATOR CIRCUIT BOARD 4-41
4.19 SWITCH/DISPLAY, REC SAFETY, JACK AND JOG SCHEMATIC DIAGRAMS [HR-S8600EU] 4-43
4.20 SWITCH/DISPLAY, REC SAFETY, JACK AND JOG CIRCUIT BOARDS [HR-S8600EU] 4-45
4.21 SWITCH/DISPLAY AND REC SAFETY SCHEMATIC DIAGRAMS [HR-S9600EU] 4-47
4.22 SWITCH/DISPLAY AND REC SAFETY CIRCUIT BOARDS [HR-S9600EU] 4-49
4.23 MEMBRANE DOOR SCHEMATIC DIAGRAM [HR-S9600EU] . 4-51
4.24 FDP GRID ASSIGNMENT AND ANODE CONNECTION ... 4-52
4.25 REMOTE CONTROL SCHEMATIC DIAGRAM 4-53
4.26 VOLTAGE CHARTS 4-54
4.27 SYSTEM CONTROL BLOCK DIAGRAM 4-59
4.28 VIDEO BLOCK DIAGRAM 4-61
4.29 AUDIO BLOCK DIAGRAM 4-65

5. PARTS LIST

5.1 PACKING AND ACCESSORY ASSEMBLY <M1> 5-1
5.2 CABINET AND CHASSIS ASSEMBLY <M2> 5-2
5.3 MECHANISM ASSEMBLY <M4> 5-4
5.4 ELECTRICAL PARTS LIST 5-6
 MAIN BOARD ASSEMBLY <03> 5-6
 3D SVHS BOARD ASSEMBLY <05> 5-14
 TERMINAL BOARD ASSEMBLY <06> 5-17
 AUDIO CONTROL HEAD BOARD ASSEMBLY <12> 5-18
 DEMOD BOARD ASSEMBLY <14> 5-18
 SW/DISPLAY BOARD ASSEMBLY(S8600EU) <28> 5-19
 SW/DISPLAY BOARD ASSEMBLY(S9600EU) <28> 5-20
 REC SAFETY BOARD ASSEMBLY(S8600EU) <32> 5-20
 REC SAFETY BOARD ASSEMBLY(S9600EU) <32> 5-21
 JACK BOARD ASSEMBLY(S8600EU) <36> 5-21
 JOG BOARD ASSEMBLY(S8600EU) <37> 5-21
 LOADING MOTOR BOARD ASSEMBLY <55> 5-21

The following table lists the differing points between Models (HR-S8600EU and HR-S9600EU) in this series.

	HR-S8600EU	HR-S9600EU
TAPE ACCESS (MARK)	AUTO	AUTO/MANUAL
TAPE ACCESS (ERASE)	NO	MANUAL
HIGH GRADE AUDIO PARTS	NOT USED	USED
FOOT	NOT USED	USED
ACCESSORY (VIDEO CABLE)	NO	S(4PIN) – S(4PIN)

Important Safety Precautions

Prior to shipment from the factory, JVC products are strictly inspected to conform with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

●Precautions during Servicing

1. Locations requiring special caution are denoted by labels and inscriptions on the cabinet, chassis and certain parts of the product. When performing service, be sure to read and comply with these and other cautionary notices appearing in the operation and service manuals.

2. Parts identified by the ⚠ symbol and shaded (▨) parts are critical for safety.
   Replace only with specified part numbers.
   Note: Parts in this category also include those specified to comply with X-ray emission standards for products using cathode ray tubes and those specified for compliance with various regulations regarding spurious radiation emission.

3. Fuse replacement caution notice.
   Caution for continued protection against fire hazard.
   Replace only with same type and rated fuse(s) as specified.

4. Use specified internal wiring. Note especially:
   1) Wires covered with PVC tubing
   2) Double insulated wires
   3) High voltage leads

5. Use specified insulating materials for hazardous live parts. Note especially:
   1) Insulation Tape
   2) PVC tubing
   3) Spacers
   4) Insulation sheets for transistors
   5) Barrier

6. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.) wrap ends of wires securely about the terminals before soldering.

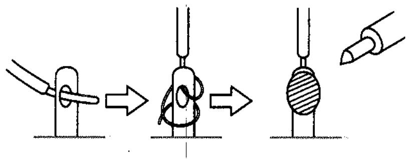


Fig.1

7. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.)

8. Check that replaced wires do not contact sharp edged or pointed parts.

9. When a power cord has been replaced, check that 10-15 kg of force in any direction will not loosen it.

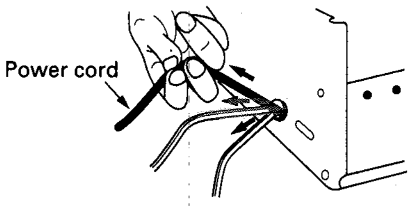


Fig.2

10. Also check areas surrounding repaired locations.

11. Products using cathode ray tubes (CRTs)
    In regard to such products, the cathode ray tubes themselves, the high voltage circuits, and related circuits are specified for compliance with recognized codes pertaining to X-ray emission. Consequently, when servicing these products, replace the cathode ray tubes and other parts with only the specified parts. Under no circumstances attempt to modify these circuits. Unauthorized modification can increase the high voltage value and cause X-ray emission from the cathode ray tube.

12. Crimp type wire connector
    In such cases as when replacing the power transformer in sets where the connections between the power cord and power transformer primary lead wires are performed using crimp type connectors, if replacing the connectors is unavoidable, in order to prevent safety hazards, perform carefully and precisely according to the following steps.

    1) **Connector part number** : E03830-001
    2) **Required tool** : Connector crimping tool of the proper type which will not damage insulated parts.
    3) **Replacement procedure**
       (1) Remove the old connector by cutting the wires at a point close to the connector.
       Important : Do not reuse a connector (discard it).

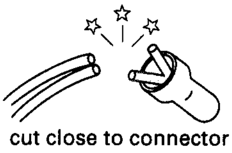


Fig.3

(2) Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.

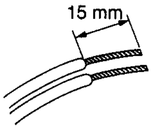


Fig.4

(3) Align the lengths of the wires to be connected. Insert the wires fully into the connector.

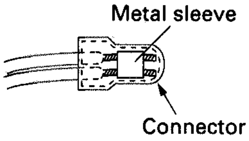


Fig.5

(4) As shown in Fig.6, use the crimping tool to crimp the metal sleeve at the center position. Be sure to crimp fully to the complete closure of the tool.

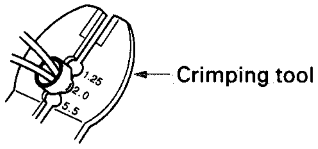


Fig.6

(5) Check the four points noted in Fig.7.

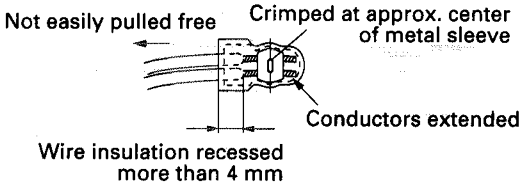

Not easily pulled free
Crimped at approx. center of metal sleeve
Conductors extended
Wire insulation recessed more than 4 mm

Fig.7

● Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions, Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

1. **Insulation resistance test**
   Confirm the specified insulation resistance or greater between power cord plug prongs and externally exposed parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

2. **Dielectric strength test**
   Confirm specified dielectric strength or greater between power cord plug prongs and exposed accessible parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

3. **Clearance distance**
   When replacing primary circuit components, confirm specified clearance distance (d), (d') between soldered terminals, and between terminals and surrounding metallic parts. See table 1 below.

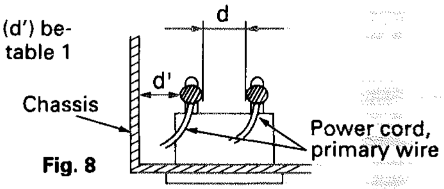


Fig. 8

4. **Leakage current test**
   Confirm specified or lower leakage current between earth ground/power cord plug prongs and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).
   Measuring Method : (Power ON)
   Insert load Z between earth ground/power cord plug prongs and externally exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See figure 9 and following table 2.

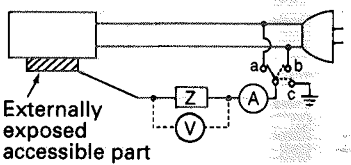


Fig. 9

5. **Grounding (Class I model only)**
   Confirm specified or lower grounding impedance between earth pin in AC inlet and externally exposed accessible parts (Video in, Video out, Audio in, Audio out or Fixing screw etc.).
   Measuring Method:
   Connect milli ohm meter between earth pin in AC inlet and exposed accessible parts. See figure 10 and grounding specifications.

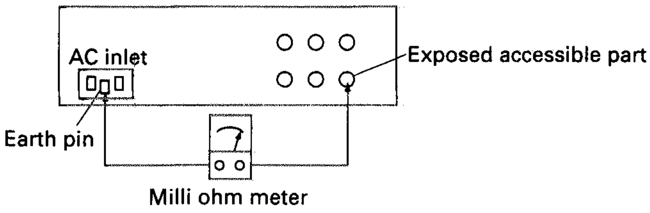


Fig. 10

Grounding Specifications

Region	Grounding Impedance (Z)
USA & Canada	Z ≦ 0.1 ohm
Europe & Australia	Z ≦ 0.5 ohm

AC Line Voltage	Region	Insulation Resistance (R)	Dielectric Strength	Clearance Distance (d), (d')
100 V	Japan	R ≧ 1 MΩ/500 V DC	AC 1 kV 1 minute	d, d' ≧ 3 mm
100 to 240 V			AC 1.5 kV 1 miute	d, d' ≧ 4 mm
110 to 130 V	USA & Canada	1 MΩ ≦ R ≦ 12 MΩ/500 V DC	AC 1 kV 1 minute	d, d' ≧ 3.2 mm
110 to 130 V 200 to 240 V	Europe & Australia	R ≧ 10 MΩ/500 V DC	AC 3 kV 1 minute (Class II) AC 1.5 kV 1 minute (Class I)	d ≧ 4 mm d' ≧ 8 mm (Power cord) d' ≧ 6 mm (Primary wire)

Table 1 Specifications for each region

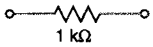
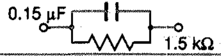
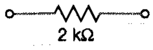
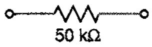
AC Line Voltage	Region	Load Z	Leakage Current (i)	a, b, c
100 V	Japan	 1 kΩ	i ≦ 1 mA rms	Exposed accessible parts
110 to 130 V	USA & Canada	 0.15 µF, 1.5 kΩ	i ≦ 0.5 mA rms	Exposed accessible parts
110 to 130 V 220 to 240 V	Europe & Australia	 2 kΩ	i ≦ 0.7 mA peak i ≦ 2 mA dc	Antenna earth terminals
		 50 kΩ	i ≦ 0.7 mA peak i ≦ 2 mA dc	Other terminals

Table 2 Leakage current specifications for each region

Note: These tables are unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality.

INSTRUCTIONS [This instruction manual is for HR-S9600EU]

Safety Precautions

The rating plate and the safety caution are on the rear of the unit.

WARNING: DANGEROUS VOLTAGE INSIDE
WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.

CAUTION

- When you are not using the recorder for a long period of time, it is recommended that you disconnect the power cord from the mains outlet.
- Dangerous voltage inside. Refer internal servicing to qualified service personnel. To prevent electric shock or fire hazard, remove the power cord from the mains outlet prior to connecting or disconnecting any signal lead or aerial.

WARNING

There are two different types of SECAM colour systems: SECAM-L, used in FRANCE (also called SECAM-West), and SECAM-B, used in Eastern European countries (also called SECAM-East).

1. This recorder can also receive SECAM-B colour television signals for recording and playback.
2. Recordings made of SECAM-B television signals produce monochrome pictures if played back on a video recorder of SECAM-L standard, or do not produce normal colour pictures if played back on a PAL video recorder with SECAM-B system incorporated (even if the TV set is SECAM-compatible).
3. SECAM-L prerecorded cassettes or recordings made with a SECAM-L video recorder produce monochrome pictures when played back with this recorder.
4. This recorder cannot be used for the SECAM-L standard. Use a SECAM-L recorder to record SECAM-L signals.

IMPORTANT

- Please read the various precautions on page 2 and 3 before installing or operating the recorder.
- It should be noted that it may be unlawful to re-record pre-recorded tapes, records, or discs without the consent of the owner of copyright in the sound or video recording, broadcast or cable programme and in any literary, dramatic, musical, or artistic work embodied therein.

S-VHS 625 ShowView®

- Cassettes marked "S-VHS" and "VHS" can be used with this video cassette recorder. However, S-VHS recordings are possible only with cassettes marked "S-VHS".
- ShowView is a registered trademark of Gemstar Development Corporation. The ShowView system is manufactured under licence from Gemstar Development Corporation.

For Italy:
"It is declared that this product, brand JVC, conforms to the Ministry Decree n. 548 of 28 Aug.'95 published in the Official Gazette of the Italian Republic n. 301 of 28 Dec.'95"

The STANDBY/ON ⏻/I button does not completely shut off mains power from the unit, but switches operating current on and off. " ⏻ " shows electrical power standby and " I " shows ON.

Video tapes recorded with this video recorder in the LP (Long Play) mode cannot be played back on a single-speed video recorder.

Failure to heed the following precautions may result in damage to the recorder, remote control or video cassette.

1. **DO NOT place the recorder . . .**
   ... in an environment prone to extreme temperatures or humidity.
   ... in direct sunlight.
   ... in a dusty environment.
   ... in an environment where strong magnetic fields are generated.
   ... on a surface that is unstable or subject to vibration.
2. **DO NOT block the recorder's ventilation openings.**
3. **DO NOT place heavy objects on the recorder or remote control.**
4. **DO NOT place anything which might spill on top of the recorder or remote control.**
5. **AVOID violent shocks to the recorder during transport.**

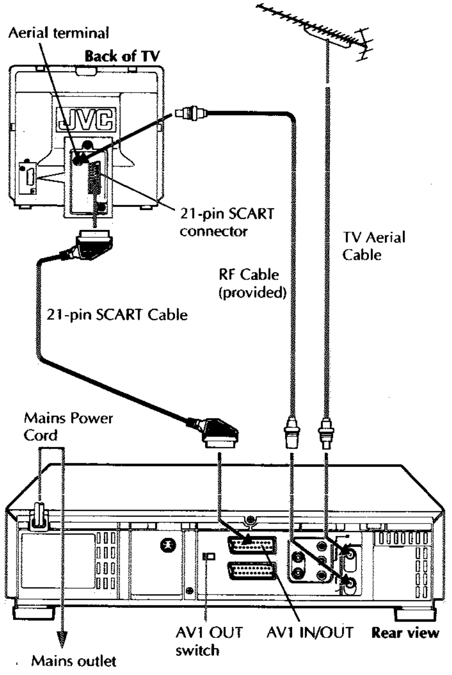
MOISTURE CONDENSATION

Moisture in the air will condense on the recorder when you move it from a cold place to a warm place, or under extremely humid conditions—just as water droplets form in the surface of a glass filled with cold liquid. Moisture condensation on the head drum will cause damage to the tape. In conditions where condensation may occur, keep the recorder turned on for a few hours to let the moisture dry.

ABOUT HEAD CLEANING

Accumulation of dirt and other particles on the video heads may cause the playback picture to become blurred or interrupted. Be sure to contact your nearest JVC dealer if such troubles occur.

Basic Connections



Make AV connection if your TV has a 21-pin AV input connector (SCART) in order to reduce the possibility of interference. And if you are using a stereo TV, you will need this cable in order to enjoy stereo playback of videotapes.

It's essential that your video recorder be properly connected. Follow these steps carefully. THESE STEPS MUST BE COMPLETED BEFORE ANY VIDEO OPERATION CAN BE PERFORMED.

1 CHECK CONTENTS

Make sure the package contains all of the accessories listed in "Specifications" (☞ pg. 75).

2 SITUATE RECORDER

Place the recorder on a stable, horizontal surface.

3 CONNECT RECORDER TO TV

The connection method you use depends on the type of TV you have.

RF CONNECTION

- *To Connect To A TV With NO AV Input Terminals . . .*
  - a– Disconnect the TV aerial cable from the TV.
  - b– Connect the TV aerial cable to the ANT. IN jack on the rear panel of the recorder.
  - c– Connect the provided RF cable between the RF OUT jack on the rear panel of the recorder and the TV's aerial terminal.

AV CONNECTION

- *To Connect To A TV With AV Input Terminals . . .*
  - a– Connect the aerial, recorder and TV as per "RF CONNECTION".
  - b– Connect an optional SCART cable between the AV1 IN/OUT socket on the rear panel of the recorder and the TV's 21-pin SCART connector.
  - c– Set the AV1 OUT switch to the appropriate position. See "AV1 INPUT/OUTPUT SIGNAL SELECTION FOR AV CONNECTION" below.

4 CONNECT RECORDER TO MAINS

Plug the end of the mains power cord into a mains outlet.

After you plug the mains power cord into a mains outlet, the Country Set display appears on the TV screen and/or on the recorder's front display panel when the ⏻/I button on the recorder/remote control is pressed for the first time to power on the recorder; go to page 6 to perform Auto Set Up.

AV1 INPUT/OUTPUT SIGNAL SELECTION FOR AV CONNECTION

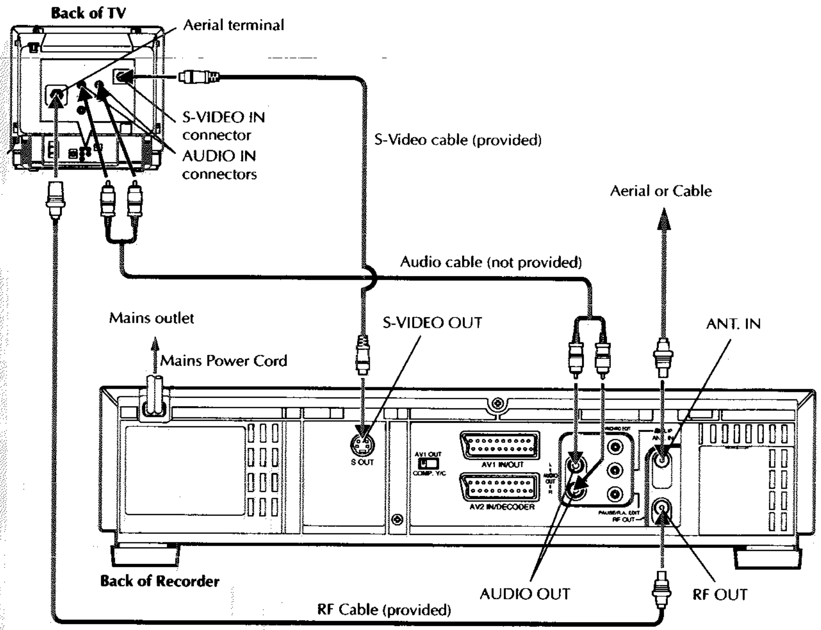
The AV1 IN/OUT connector accepts and delivers either a composite signal (regular video signal) or a Y/C signal (a signal in which the luminance and chrominance signals are separated). For input signal selection, select "VIDEO" (regular video signal) or "S-VIDEO" (Y/C signal) for "AV1 SELECT" setting (☞ pg. 44). For output signal selection, use **AV1 OUT** switch of the rear panel.

- If your TV's 21-pin AV input connector (SCART) is compatible only with the regular video signal, set this switch to COMP.
- If your TV's 21-pin AV input connector (SCART) is compatible with the Y/C signal, set this switch to Y/C. You can obtain high-quality S-VHS pictures. (For connection, be sure to use a 21-pin SCART cable that is compatible with the Y/C signal.)

NOTES:

- *Set your TV to the VIDEO (or AV), Y/C, or RGB mode according to the type of your TV's SCART connector.*
- *For switching the TV's mode, refer to the instruction manual of your television.*
- *To obtain high-quality S-VHS pictures, you can also use the S-VIDEO CONNECTION described on page 5.*

S-VIDEO Connection



- *To Connect to A TV With S-VIDEO/AUDIO IN Connectors . . .*

1 CONNECT RECORDER TO TV

- a– Connect the aerial, recorder and TV as per "RF CONNECTION" (☞ pg. 4).
- b– Connect the recorder's S-VIDEO OUT connector to the TV's S-VIDEO IN connector.
- c– Connect the recorder's AUDIO OUT connectors to the TV's AUDIO IN connectors.

2 CONNECT RECORDER TO MAINS

Plug the end of the mains power cord into a mains outlet.

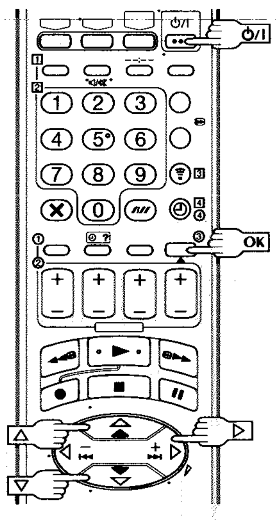
NOTES:

- *You can obtain high-quality S-VHS pictures.*
- *If your television is not stereo-capable, use the recorder's AUDIO OUT connectors to connect to an audio amplifier for Hi-Fi stereo sound reproduction. (☞ pg. 55)*
- *To operate the recorder with your TV using the S-VIDEO connection, set your TV to the VIDEO (or AV mode).*
- *For switching the TV's mode, refer to the instruction manual of your television.*

After you plug the mains power cord into a mains outlet, the Country Set display appears on the TV screen and/or on the recorder's front display panel when the ⏻/I button on the recorder/remote control is pressed for the first time to power on the recorder; go to page 6 to perform Auto Set Up.

Auto Set Up

Auto Channel Set/Auto Clock Set/Auto Guide Program Number Set



International Telephone Country Code

BELGIUM	:32	NORGE	:47
ČESKÁ REPUBLIKA	:42	ÖSTERREICH	:43
DANMARK	:45	POLSKA	:48
DEUTSCHLAND	:49	PORTUGAL	:351
ESPAÑA	:34	SUISSE	:41
GREECE	:30	SUOMI	:358
ITALIA	:39	SVERIGE	:46
MAGYARORSZÁG	:36	OTHER WESTERN EUROPE	:- -
NEDERLAND	:31	OTHER EASTERN EUROPE	:EE

ATTENTION

Once you have performed Auto Set Up, even if the recorder's memory backup has expired, all the stored stations and their Guide Program numbers remain in the recorder's memory and the recorder will not perform Auto Set Up again. You only need to set the clock. (☞ pg. 64)

If you have moved to a different area, perform each setting as required.

- Video Channel setting (for RF connection users) ☞ pg. 63
- Tuner setting ☞ pg. 56
- Clock setting ☞ pg. 64

If a new station starts broadcasting in your area, perform tuner setting (☞ pg. 56) and, if necessary, video channel setting (☞ pg. 63).

When the ⏻/I button on the recorder/remote control is pressed for the first time to power on the recorder after you plug the mains power cord into a mains outlet, the Country Set display will appear on the TV screen and the recorder's front display panel. By simply selecting your country*, the Auto Set Up function sets the tuner channels, clock** and Guide Program numbers automatically.

* If you live in Belgium (BELGIUM) or Switzerland (SUISSE), you also need to select your language.

** If you live in Hungary (MAGYARORSZAG), Czech Republic (CESKA REPUBLIKA), Poland (POLSKA) or other countries in Eastern Europe (OTHER EASTERN EUROPE), set the clock manually.

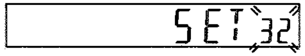
~~You can refer to the front display panel and/or the on-screen~~ display to perform this procedure.

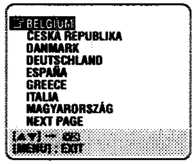
Before starting, make sure of the following:
- The TV aerial cable should be connected to the recorder.
- The recorder's mains power cord should be connected to a mains outlet.
- If you want to use the on-screen display, the TV should be set to its AV mode (with AV or S-VIDEO connection ☞ pg. 4 or 5) or UHF channel 36 (with RF connection ☞ pg. 4).

1

TURN ON THE RECORDER

Press ⏻/I on the recorder or remote control. The Country Set display appears on the front display panel and/or on the screen.





NOTE:

If you have connected your TV to the recorder with RF connection and the on-screen display appearing on UHF channel 36 looks distorted, perform "Video Channel Set" on page 63.

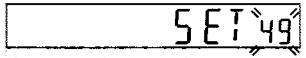
2

SELECT COUNTRY

If you are referring to the front display panel

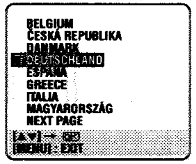
Press △▽ to select your international telephone country code of your country referring to the chart in the left column.

(Ex.) DEUTSCHLAND is selected



If you are referring to the on-screen display

Press △▽ to move the highlight bar (pointer) to your country's name.



NOTE:

*If you have selected BELGIUM (32) or SUISSE (41), go to step 3. If you have selected MAGYARORSZAG (36), CESKA REPUBLIKA (42), POLSKA (48) or OTHER EASTERN EUROPE (EE), press **OK**. The Clock Set screen will appear. Set the clock manually (☞ pg. 64 – 65), then go to step **4**. If you have selected any other country name (code), go to step **4**.*

3

SELECT LANGUAGE

Press **OK**. The Language Set display appears on the front display panel and/or on the screen.

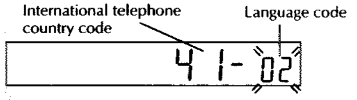
If you are referring to the front display panel

Press △▽ to select your language code.

Language Code

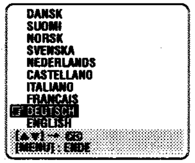
ENGLISH	:01	NEDERLANDS	:06
DEUTSCH	:02	SVENSKA	:07
FRANCAIS	:03	NORSK	:08
ITALIANO	:04	SUOMI	:09
CASTELLANO	:05	DANSK	:10

(Ex.) DEUTSCH is selected for SUISSE



If you are referring to the on-screen display

Press △▽ to move the highlight bar (pointer) to the language of your choice.



(Ex.) DEUTSCH is selected

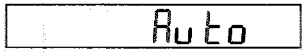
4

PERFORM AUTO SET UP

Press **OK**.

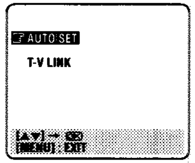
If you are referring to the front display panel

Press △▽ to select "Auto" and press **OK** or ▷.



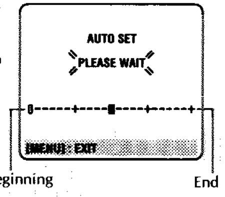
If you are referring to the on-screen display

Press △▽ to move the highlight bar (pointer) to "AUTO SET" and press **OK** or ▷.



"Auto" blinks on the display panel; do NOT press any button on the recorder or remote control until the display panel shows either the display as illustrated on page 9 or "– –:– –".

- If you are using the on-screen display, the AUTO SET screen will appear. As Auto Set Up progresses, the "■" mark on the screen moves from left to right.



- If "– –:– –" appears on the display panel, refer to page 9.

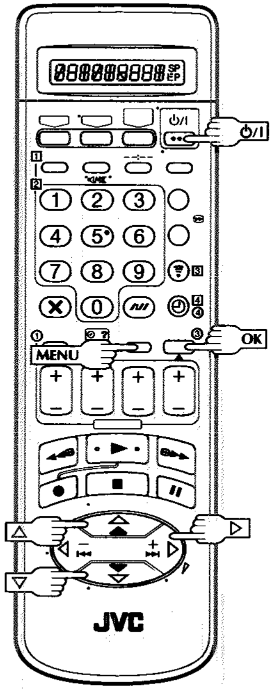
NOTES:

- *Auto channel set function takes place first; it assigns automatically all receivable stations in your area.*
- *Auto clock set function sets the clock automatically by reading the clock setting data from a station transmitting a PDC signal while auto channel set is being performed.*
- *During auto channel set, the recorder recognizes each station name of the detected stations and stores them in the recorder's memory, then automatically sets ShowView assigned Guide Program number for those stations according to the broadcast area.*
- *In the area where no TV station transmits a PDC signal, the recorder can perform neither auto clock set nor auto Guide Program number set.*
- *If there is a power cut, or if you press ⏻/I or **MENU** while Auto Set Up is in progress, Auto Set Up will be interrupted; be sure to turn off the recorder power once and try again from step **1**.*
- *Auto clock may not function properly depending on the reception condition.*

Preset Download

You can use this function only with the TV offering T-V Link, etc.*

** Compatible with TVs offering T-V Link, EasyLink, Megalogic, SMARTLINK, Q-Link, DATA LOGIC or NEXTVIEWLINK via fully-wired 21-pin SCART cable. The degree of compatibility and available functions may differ by system.*



NOTES:

- *In the area where no TV station transmits a PDC signal, the recorder can perform neither auto clock set nor auto Guide Program number set.*
- *If there is a power cut, or if you press ⏻/I or **MENU** while downloading or set up is in progress, it will be interrupted; be sure to turn off the recorder power once and try again from the beginning.*
- *Auto clock may not function properly depending on the reception condition.*
- *When you perform T-V LINK function, be sure to use fully-wired 21-pin SCART cable.*
- *On this recorder, the characters available for station's name (ID) are A–Z, 0–9, –, ✱, + and ⌴ (space). Some downloaded station's name may differ from those of your TV (☞ pg. 60).*

When you connect the recorder and your TV via fully-wired 21-pin SCART cable (☞ pg. 4), you can set the recorder's tuner channels by downloading preset data from your TV instead of using the Auto Set Up function (☞ pg. 6). After downloading is completed, the recorder sets the clock and Guide Program number automatically. For details, refer to the instruction manual for your TV.

Perform steps **1** to **3** of "Auto Set Up" on page 6 and 7 before continuing.

1 PERFORM PRESET DOWNLOAD

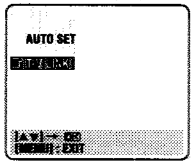
Press **OK**.

If you are referring to the front display panel

Press △▽ to select "CH – –" and press **OK** or ▷.

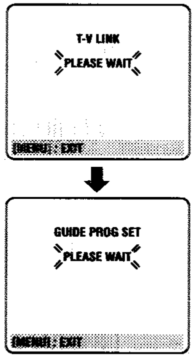
If you are referring to the on-screen display

Press △▽ to move the highlight bar (pointer) to "T-V LINK" and press **OK** or ▷.



Preset position on the display panel increases from "CH1"; do NOT press any button on the recorder or remote control until the display panel shows either the display as illustrated on page 9 or "– –:– –".

- If "– –:– –" appears on the display panel, refer to page 9.
- If you are using the on-screen display, the T-V LINK screen will appear. Then the GUIDE PROG SET screen will appear during Guide Program number set.
- If you press any button on the recorder or remote control while downloading is in progress, it will be interrupted.



2 SET VIDEO CHANNEL

Set the Video Channel to off manually. (☞ pg. 63)

Results of Auto Set Up/Preset Download appear on the front display panel

A 20:00

When both auto channel set and auto clock set have been completed successfully the correct current time will be ~~displayed after the **OK** button is pressed in~~ step **4** on page 7 or in step **1** on page 8.

B 1

When auto channel set has been completed successfully but auto clock set has not, "1" (channel position) will be ~~displayed after the **OK** button is pressed in~~ step **4** on page 7 or in step **1** on page 8.

C - -:- -

When neither auto channel set nor auto clock set has been completed successfully, "– –:– –" will be displayed.

You can check if the Guide Program numbers have been set correctly when you perform ShowView Timer Programming (☞ pg. 28); if the correct channel position number is displayed in step **3**, this confirms that the Guide Program number for the ShowView number you enter in step **2** has been set correctly.

A If both auto channel set and auto clock set have been performed successfully:

1. Turn on the TV and select its VIDEO channel or AV mode, then make sure that all necessary stations have been stored in the recorder's memory by using the **TV PROG** button(s).
   - If station names (ID — ☞ pg. 61) have also been stored in the recorder's memory, the station name will be displayed at the top left corner of the screen for about 5 seconds when the recorder is tuned to a different station.
   - If you want to set the tuner manually such as to add or skip channels, to change channel positions, or to set or change station names, see pages 58 – 62.

B If auto channel set has succeeded but auto clock set has not:

1. Turn on the TV and select its VIDEO channel or AV mode, then make sure that all necessary stations have been stored in the recorder's memory by using the **TV PROG** button(s).
   - If station names (ID — ☞ pg. 61) have also been stored in the recorder's memory, the station name will be displayed at the top left corner of the screen for about 5 seconds when the recorder is tuned to a different station.
   - If you want to set the tuner manually such as to add or skip channels, to change channel positions, or to set or change station names, see pages 58 – 62.
2. Perform "Clock Set" on page 64.

C If both auto channel set and auto clock set have failed:

1. Make sure the TV aerial cable is connected properly to the recorder and turn off the recorder power once, then turn the recorder power back on again.
   - The Country Set display appears on the front display panel and/or on the screen; perform steps **2** – **4** on pages 6 – 7 again or perform the procedure on page 8.

IMPORTANT

- In certain reception conditions, station names may not be stored correctly, and auto Guide Program Number Set may not work properly. If the Guide Program numbers are not set properly, when you timer-record a TV programme using ShowView, the recorder will record a TV programme of a different station. When programming the timer using ShowView, be sure to check whether the channel position on which your recorder receives the broadcasting station you wish to record is selected (☞ pg. 28, "ShowView Timer Programming").
- Your video recorder memorizes all detected stations even if reception of some of them is poor. In these cases picture quality may be poor. To delete those stations with an unacceptable picture ☞ "Delete A Channel" on page 59.

INFORMATION

Language for the on-screen display

Auto Set Up also selects the language automatically for the on-screen display depending on the Country setting you have made in step **2** on page 6 (unless you have selected BELGIUM or SUISSE), as shown below.

SUOMI	→ SUOMI	DANMARK	→ DANSK	NEDERLAND	→ NEDERLANDS
PORTUGAL	→ ENGLISH	ÖSTERREICH	→ DEUTSCH	GREECE	→ ENGLISH
DEUTSCHLAND	→ DEUTSCH	ČESKÁ REPUBLIKA	→ ENGLISH	OTHER WESTERN EUROPE	→ ENGLISH
POLSKA	→ ENGLISH	ITALIA	→ ITALIANO	OTHER EASTERN EUROPE	→ ENGLISH
NORGE	→ NORSK	MAGYARORSZÁG	→ ENGLISH		
SVERIGE	→ SVENSKA	ESPAÑA	→ CASTELLANO		

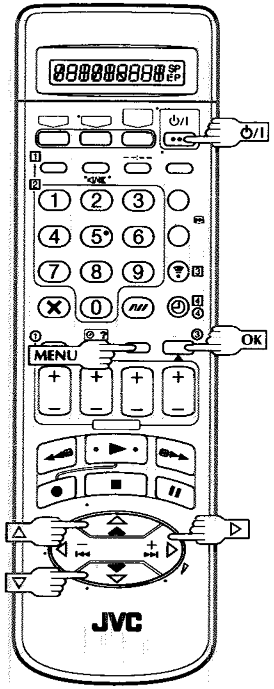
If you want to change the language setting manually, ☞ "Language" on page 10.

Just Clock

Your recorder is equipped with the Just Clock function which provides accurate time keeping through automatic adjustments at regular intervals, by reading data from a PDC signal. If you want to take advantage of this function, simply set it to "ON". ☞ "Just Clock" on page 64.

Language

Turn on the TV and select the VIDEO channel (or AV mode).



⏻/I
OK
MENU
JVC

This recorder offers you the choice to view on-screen messages in 10 different languages. Though Auto Set Up selects the language automatically (☞ pg. 9), you can change the language setting manually using this procedure as required.

1 TURN ON THE RECORDER

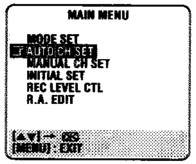
Press ⏻/I.

2 ACCESS MAIN MENU

Press **MENU**.

3 ACCESS COUNTRY SET SCREEN

Press ∆∇ to move the highlight bar (pointer) to "AUTO CH SET", then press **OK** or ▷.



MAIN MENU
MODE SET
AUTO CH SET
MANUAL CH SET
INITIAL SET
REC LEVEL CTL
R.A. EDIT
[▲▼] → OK
[MENU] : EXIT

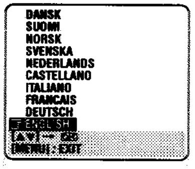
4 SELECT COUNTRY

Press ∆∇ to move the highlight bar (pointer) to your country's name, then press **OK** or ▷.

5 SELECT LANGUAGE

Press ∆∇ to move the highlight bar (pointer) to the language of your choice.

- You do not have to press **OK**; pressing **OK** enters Auto Set/T-V LINK screen.



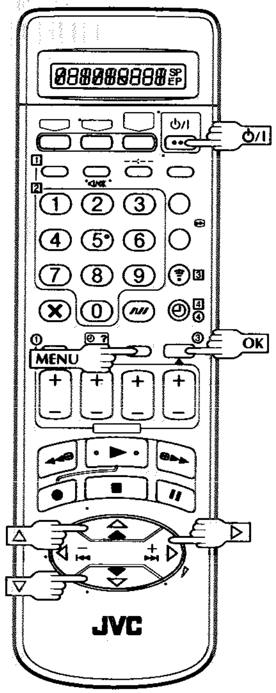
DANSK
SUOMI
NORSK
SVENSKA
NEDERLANDS
CASTELLANO
ITALIANO
FRANCAIS
DEUTSCH
ENGLISH
[▲▼] → OK
[MENU] : EXIT

6 RETURN TO NORMAL SCREEN

Press **MENU**.

On-Screen Displays

Turn on the TV and select the VIDEO channel (or AV mode).



⏻/I
OK
MENU
JVC

You can choose whether or not to have various operational indicators appear on screen, by setting this function ON or OFF. Messages appear in the selected language (☞ pg. 9 or 10).

1 TURN ON THE RECORDER

Press ⏻/I.

2 ACCESS MAIN MENU SCREEN

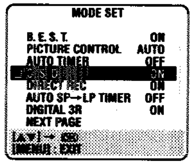
Press **MENU**.

3 ACCESS MODE SET SCREEN

Move the highlight bar (pointer) to "MODE SET" by pressing ∆∇, then press **OK** or ▷.

4 ENABLE/DISABLE ON-SCREEN DISPLAY

The default setting is "ON", so if you want on-screen displays, leave the setting as it is and go to step **5**. If you don't want the displays to appear, press ∆∇ to move the highlight bar (pointer) to "O.S.D." and press **OK** or ▷ to set "O.S.D." to "OFF".



MODE SET
NEXT PAGE
[▲▼] → OK
[MENU] : EXIT

B.E.S.T. ON
PICTURE CONTROL AUTO
AUTO TIMER OFF
O.S.D. ON
DIRECT REC ON
AUTO SP→LP TIMER OFF
DIGITAL 3R ON

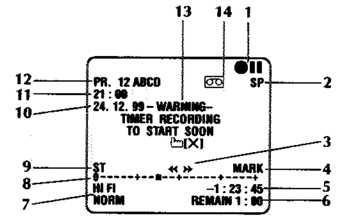
5 RETURN TO NORMAL SCREEN

Press **MENU**.

NOTES:

- *When you use this recorder as the player for editing, be sure to set "O.S.D." to "OFF" before starting.*
- *During playback, the operation mode indicators may be disturbed depending on the type of tape being used.*

The superimposed indication on the TV screen tells you what the recorder is doing.

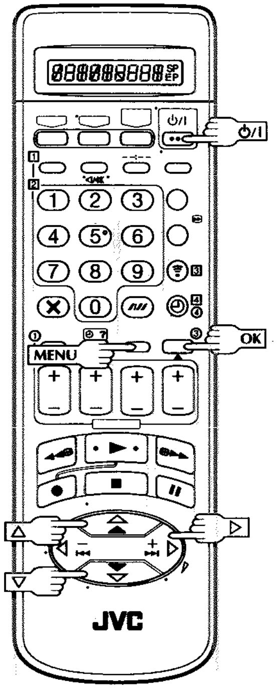


13
14
1
12
11
10
9
8
7
2
3
4
5
6
PR. 12 ABCD
SP
21 : 00
24. 12. 99 – WARNING–
TIMER RECORDING
TO START SOON
[X]
ST
« »
MARK
0
HI FI
–1 : 23 : 45
NORM
REMAIN 1 : 00

1– Operation mode indicators
2– Tape speed SP/LP/EP (EP is for NTSC playback only)
3– Tape direction
4– Index MARK/ERASE indicator (☞ pg. 17)
5– Counter display
6– Tape remaining time indicator (☞ pg. 23)
7– Audio mode display (☞ pg. 19)
8– Tape position indicator (☞ pg. 15)
9– Type of Broadcast (☞ pg. 25)
10– Current day/month/year
11– Clock display
12– Channel position number and station name/Aux. indicator (L-1, L-2, F-1 or S-1)
13– Timer warning display (☞ pg. 29, 31)
14– Cassette loaded mark

Power Save Mode

Turn on the TV and select the VIDEO channel (or AV mode).



You can reduce the power consumption while the recorder is turned off.

1 TURN ON THE RECORDER

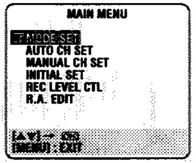
Press ⏻/I.

2 ACCESS MAIN MENU SCREEN

Press **MENU**.

3 ACCESS MODE SET SCREEN

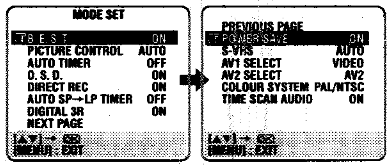
Press △▽ to move the highlight bar (pointer) to "MODE SET", then press **OK** or ▷.



MAIN MENU
☞MODE SET
AUTO CH SET
MANUAL CH SET
INITIAL SET
REC LEVEL CTL
R.A. EDIT
[▲▼] → OK
[MENU] : EXIT

4 SELECT POWER SAVE MODE

Press △▽ to move the highlight bar (pointer) to "POWER SAVE", then press **OK** or ▷ to set to "ON".



MODE SET
☞B.E.S.T. ON
PICTURE CONTROL AUTO
AUTO TIMER OFF
O.S.D. ON
DIRECT REC ON
AUTO SP→LP TIMER OFF
DIGITAL 3R ON
NEXT PAGE
[▲▼] → OK
[MENU] : EXIT

PREVIOUS PAGE
☞POWER SAVE ON
S-VHS AUTO
AV1 SELECT VIDEO
AV2 SELECT AV2
COLOUR SYSTEM PAL/NTSC
TIME SCAN AUDIO ON
[▲▼] → OK
[MENU] : EXIT

5 RETURN TO NORMAL SCREEN

Press **MENU**.

NOTES:

- *During Power Save, the display panel will be turned off.*
- *The Just Clock function (☞ pg. 64) does not work while the Power Save mode is engaged.*
- *While the recorder is in the Power Save mode, the picture may be distorted momentarily when you turn on/off the recorder.*
- *Power Save does not work when ...*
  - *... the recorder is in the Timer mode.*
  - *... the recorder's power is turned off after timer-recording (or Instant Timer Recording).*
  - *... the Auto Satellite Prog Recording mode is engaged (☞ pg. 35).*
  - *... "AV2 SELECT" is set to "DECODER" or "SAT" (☞ pg. 44).*

T-V Link Functions

When you connect the recorder and your TV via fully-wired 21-pin SCART cable (☞ pg. 4), the following functions are available. You can use these functions only with the TV offering T-V Link, etc.*

For details, refer to the instruction manual for your TV.

* *Compatible with TVs offering T-V Link, EasyLink, Megalogic, SMARTLINK, Q-Link, DATA LOGIC or NEXTVIEWLINK via fully-wired 21-pin SCART cable. The degree of compatibility and available functions may differ by system.*

NexTView Link

You can download the EPG (Electronic Programme Guide) information from your TV for timer-programming on the recorder.

For details, refer to the instruction manual for your TV.

TV Auto Power On

You can turn on the TV and set it to video mode automatically whenever you play a tape.

For details, refer to the instruction manual for your TV.

VCR Auto Standby

You can use your TV's remote control to turn off the recorder.

For details, refer to the instruction manual for your TV.

Direct Rec

You can start recording the programme that you are watching on your TV with simple operation. Press and hold **RECORD** and press **PLAY** on the remote control, or press **RECORD** on the recorder.

Follow the procedure below to use this function.

1 TURN ON THE RECORDER

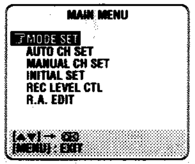
Press ⏻/I.

2 ACCESS MAIN MENU SCREEN

Press **MENU**.

3 ACCESS MODE SET SCREEN

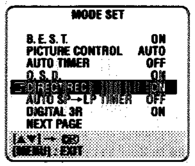
Press △▽ to move the highlight bar (pointer) to "MODE SET", then press **OK** or ▷.



MAIN MENU
☞MODE SET
AUTO CH SET
MANUAL CH SET
INITIAL SET
REC LEVEL CTL
R.A. EDIT
[▲▼] → OK
[MENU] : EXIT

4 SELECT DIRECT REC MODE

Press △▽ to move the highlight bar (pointer) to "DIRECT REC", then press **OK** or ▷ to set to "ON".



MODE SET
B.E.S.T. ON
PICTURE CONTROL AUTO
AUTO TIMER OFF
O.S.D. ON
☞DIRECT REC ON
AUTO SP→LP TIMER OFF
DIGITAL 3R ON
NEXT PAGE
[▲▼] → OK
[MENU] : EXIT

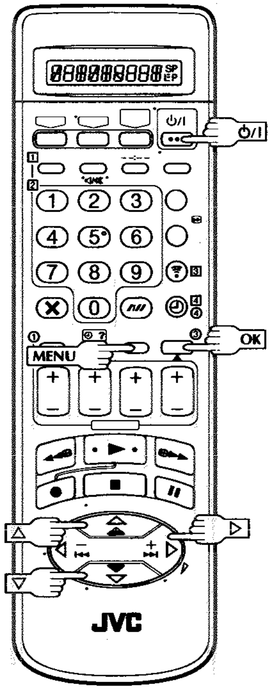
5 RETURN TO NORMAL SCREEN

Press **MENU**.

NOTES:

- *If "DIRECT REC" is set to "OFF", the **RECORD** button functions as described in "Basic Recording" (☞ pg. 22).*
- *During the Direct Rec, "– –" appears on the display panel.*
- *When you perform T-V LINK functions, be sure to use the fully-wired 21-pin SCART cable.*
- *Retake function does not work during Direct Rec (☞ pg. 24).*

Colour System Set


⏻/I
OK
MENU
△
▽
◁
▷
JVC

You can play back PAL, NTSC and MESECAM tapes, or record PAL and SECAM* signals on this recorder. Follow the procedure below to select the appropriate colour system.

* SECAM signals will be recorded as MESECAM on this recorder; MESECAM is the designation for tapes with SECAM signals that have been recorded on a MESECAM-compatible PAL video cassette recorder.

1 TURN ON THE RECORDER

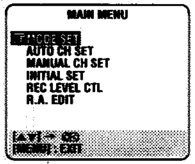
Press ⏻/I.

2 ACCESS MAIN MENU SCREEN

Press **MENU**.

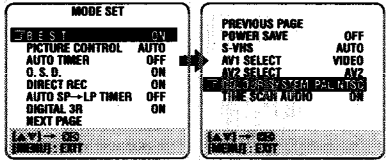
3 ACCESS MODE SET SCREEN

Press △▽ to move the highlight bar (pointer) to "MODE SET", then press **OK** or ▷.


MAIN MENU
MODE SET
AUTO CH SET
MANUAL CH SET
INITIAL SET
REC LEVEL CTL
R.A. EDIT
[▲▼] → OK
[MENU] : EXIT

4 SELECT COLOUR SYSTEM MODE

Press △▽ to move the highlight bar (pointer) to "COLOUR SYSTEM", then press **OK** or ▷ to select the appropriate colour system.


MODE SET
B E S T ON
PICTURE CONTROL AUTO
AUTO TIMER OFF
O. S. D. ON
DIRECT REC ON
AUTO SP→LP TIMER OFF
DIGITAL 3R ON
NEXT PAGE
[▲▼] → OK
[MENU] : EXIT
PREVIOUS PAGE
POWER SAVE OFF
S-VHS AUTO
AV1 SELECT VIDEO
AV2 SELECT AV2
COLOUR SYSTEM PAL NTSC
TIME SCAN AUDIO ON
[▲▼] → OK
[MENU] : EXIT

a- PAL/NTSC: To record PAL signals, or play back a PAL or NTSC tape.

b- MESECAM: To record SECAM signals, or play back a MESECAM tape.

5 RETURN TO NORMAL SCREEN

Press **MENU**.

NOTES:

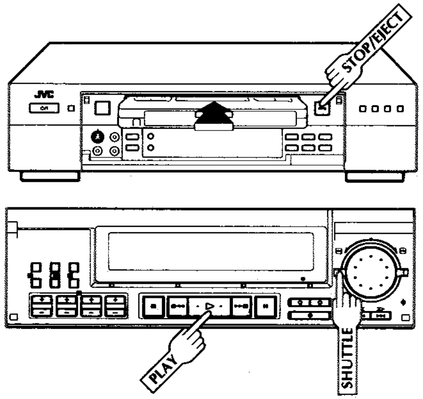
About NTSC Playback

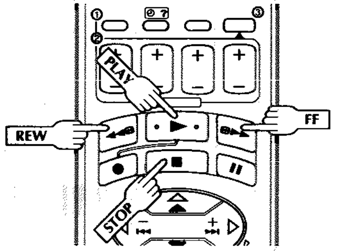
- *Some TVs shrink the picture vertically and place black bars at the top and bottom of the screen. This is not a malfunction on the part of either the video recorder or the TV.*
- *The picture may roll up and down. This can be corrected using the V-HOLD control found on some TVs. (This cannot be corrected if the TV does not have a V-HOLD control.)*
- *The counter and tape remaining time readings will be incorrect.*
- *During search, still, or frame-by-frame playback, the picture will be distorted, and there may be a loss of colour.*
- *Depending on the type of TV, the top and bottom portions of superimposed displays may be cut off during NTSC playback.*

Basic Playback

The easiest, most basic operation possible with your video recorder is tape playback. Already-recorded signals on a video tape are read by your video recorder and displayed on your TV just like a TV programme.

Turn on the TV and select the VIDEO channel (or AV mode).


JVC
STOP/EJECT
PLAY
SHUTTLE


PLAY
REW
FF
STOP

1 LOAD A CASSETTE

Make sure the window side is up, the rear label side is facing you and the arrow on the front of the cassette is pointed toward the recorder. Don't apply too much pressure when inserting.

- The recorder power comes on automatically and the counter is reset to 0:00:00.
- If the record safety tab has been removed, playback begins automatically.

2 FIND PROGRAMME START POINT

If the tape is advanced past the start point, press **REW** or turn the **SHUTTLE** ring to the left.
To go forward, press **FF** or turn the **SHUTTLE** ring to the right.

3 START PLAYBACK

Press **PLAY**. "BEST" appears blinking in the recorder's display panel during automatic tracking. (☞ pg. 26)

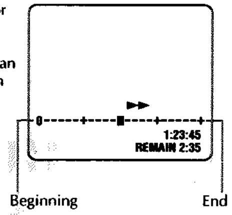
4 STOP PLAYBACK

Press **STOP** on the remote or **STOP/EJECT** on the recorder's front panel. Then press **STOP/EJECT** to remove the cassette.

Tape Position Indicator

The tape position indicator appears on screen when, from the Stop mode, you press **FF**, **REW** or perform an Index Search. The position of "■" in relation to "0" (beginning) or "+" (end) shows you where you are on the tape.

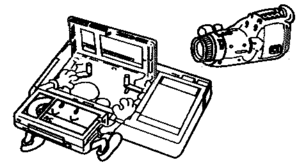
"O.S.D." (☞ pg. 11) must be set to "ON", or the indicator will not appear.


▶▶
0
+
1:23:45
REMAIN 2:35
Beginning
End

NOTE:

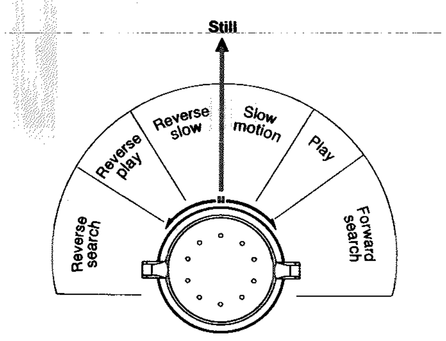
Depending on the type of tape used, there may be times when the indication is not correct.

Usable cassettes



- Compact VHS camcorder recordings can be played on this video recorder. Simply place the recorded cassette into a VHS Cassette Adapter and it can be used just like any full-sized VHS cassette.
- This video recorder can record on regular VHS and Super VHS cassettes. While only VHS signals can be recorded on regular VHS cassettes, both VHS and Super VHS signals can be recorded and played back using Super VHS cassettes.

Playback Features



NOTES:
- *Refer to the **SHUTTLE** ring illustration above as you read the following procedures.*
- *Reverse playback is possible only with a tape recorded in SP mode.*

Still Picture/Frame-By-Frame Playback

1 PAUSE DURING PLAYBACK

Press **PAUSE**.

- During still picture, the sound from the previous 3 seconds (approx.) will be played back repeatedly (provided there was at least 6 seconds of normal playback prior to engaging the still picture mode).
- "TIME SCAN AUDIO" must be set to "ON", or the sound will not be heard. (☞ pg. 21)

2 ACTIVATE FRAME-BY-FRAME PLAYBACK

Turn the **JOG** dial to the right for forward frame-by-frame playback, or to the left for reverse frame-by-frame playback.

OR

Press **PAUSE**.

OR

Press ◁ or ▷.

To resume normal playback, press **PLAY**.

Slow Motion

1 ACTIVATE SLOW-MOTION PLAYBACK

During playback or still, turn the **SHUTTLE** ring to the right for forward slow motion, or to the left for reverse slow motion (refer to the illustration on the left).

OR

During still picture, press and hold **PAUSE** for 2 seconds, then release. Press and release again to return to still picture.

OR

During still picture, press and hold ◁ or ▷. Release to return to still picture.

To resume normal playback, press **PLAY**.

NOTE:
For Time Jog, see page 21.

High-Speed (Turbo) Search

1 ACTIVATE HIGH-SPEED SEARCH

During playback or still, turn the **SHUTTLE** ring all the way to the right for forward high-speed search, or to the left for reverse high-speed search. Releasing **SHUTTLE** resumes still picture playback.

OR

During playback or still, press **FF** for forward high-speed search, or **REW** for reverse high-speed search.

To resume normal playback, press **PLAY**.

NOTE:
*For short searches, press and hold **FF** or **REW** for over 2 seconds during playback or still picture. When released, normal playback resumes.*

ATTENTION
- The operations by **JOG** dial/**SHUTTLE** ring do not include TimeScan (☞ pg. 20).
- Picture may not appear during high-speed search with an LP-recorded tape.
- In the high-speed search, still, slow motion or frame by frame playback mode, the picture will be distorted, and there will be a loss of colour.
- When normal playback resumes from search, still, slow motion or frame-by-frame playback, the picture may jitter vertically momentarily depending on the type of TV being used.

Variable-Speed Search

1 ACTIVATE VARIABLE-SPEED SEARCH

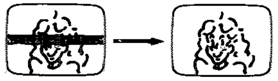
During playback or still, turn the **SHUTTLE** ring to the right for forward variable-speed search, or to the left for reverse variable-speed search (refer to the illustration on page 16).

To resume normal playback, press **PLAY**.

NOTE:
Variable-speed search with TimeScan (☞ pg. 20) can be used by pressing the remote control's ◁ or ▷ button.

Manual Tracking

Your video recorder is equipped with automatic tracking control. During playback, you can override this and adjust the tracking manually by pressing the **TV PROG** buttons.



1 OVERRIDE AUTOMATIC TRACKING

Press **////** on the remote to engage manual tracking.

2 ADJUST TRACKING MANUALLY

Press **TV PROG** + or – to adjust tracking.

3 RETURN TO AUTOMATIC TRACKING

Press **////** on the remote to re-engage automatic tracking.

NOTE:
When a new tape is inserted, the recorder enters the automatic tracking mode automatically.

Skip Search

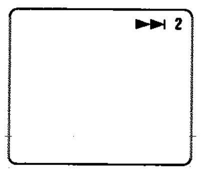
1 SKIP OVER UNWANTED SECTIONS

Press **30 SEC** 1 to 4 times during playback. Each press initiates a 30-second period of fast-motion playback. Normal playback resumes automatically.

NOTE:
*To return to normal playback during a Skip Search, press **PLAY**.*

Index Search

Your recorder automatically marks index codes at the beginning of each recording. This function gives you quick access to any one of 9 index codes in either direction.

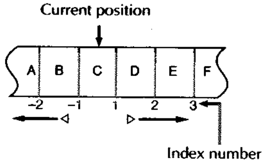


NOTE:
Before starting, make sure the recorder is in the Stop mode.

1 ACTIVATE INDEX SEARCH

Press ◁ or ▷ (|◀◀ or ▶▶|). "|◀◀ 1" or "▶▶| 1" is displayed on screen and search begins in the corresponding direction.

- To access index codes 2 through 9, press ◁ or ▷ repeatedly until the correct index number is displayed.
  Ex.: To locate the beginning of B from the current position, press ◁ twice.
  To locate the beginning of D from the current position, press ▷ once.



- When the specified index code is located, playback begins automatically.

Manual Index Mark/Erase

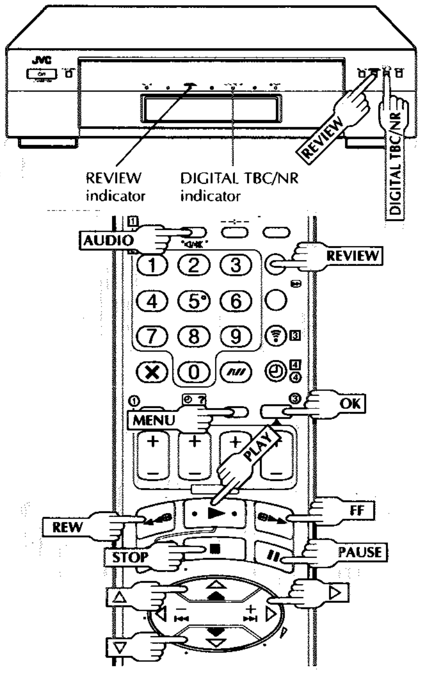
To mark an index code...
...during playback press **INDEX MARK** on the recorder.
- The recorder will mark an index code at that location.
- If "O.S.D." is set to "ON" (☞ pg. 11), "MARK" blinks on the screen while an index code is being marked.

To erase an index code...
...during playback or still press **INDEX ERASE** on the recorder.
- The recorder will fast-forward to the nearest index code and erase it. Playback continues after the index code is erased.
- If "O.S.D." is set to "ON" (☞ pg. 11), "ERASE" blinks on the screen while an index code is being erased.

Next Function Memory

The Next Function Memory "tells" the recorder what to do after rewinding. Before continuing, make sure the recorder is in the Stop mode.

a– For Automatic Start Of Playback After Tape Rewind . . .
. . . press **REW**, then press **PLAY** within 2 seconds.
b– For Automatic Power Off After Tape Rewind . . .
. . . press **REW**, then press ⏻/I within 2 seconds.
c– For Automatic Timer Standby After Tape Rewind . . .
. . . press **REW**, then press ⊕ (or ⊕**TIMER**) within 2 seconds.



Digital TBC/NR

Your video recorder is equipped with the Digital TBC (Time Base Corrector) that removes jitter from fluctuating video signals to deliver a stable picture even with old tapes and rental cassettes.

The on/off of Digital 3-DNR (Noise Reduction) which cuts noise and enables clear picture reproduction is also linked to this function.

* The default setting is "ON".

We recommend that you use the Digital TBC feature when...

... playing back a tape recorded on a camcorder.

... playing back a tape repeatedly used.

... using this video recorder as the player for editing.

1 ACTIVATE DIGITAL TBC/NR

Press **DIGITAL TBC/NR** so that DIGITAL TBC/NR indicator lights up.

- To turn off DIGITAL TBC/NR, press **DIGITAL TBC/NR** again so that the indicator goes off.

NOTES:

- *If you play back a tape recorded under poor TV reception condition, there may be cases where the picture becomes more stable with Digital TBC/NR set to off.*
- *When Digital TBC/NR is set to on, if you play back a tape where certain types of signals are recorded (using a PC or some character generators), the playback picture may be distorted. If this is the case, turn off Digital TBC/NR.*
- *When playing back a MESECAM tape, Digital TBC/NR does not function even though the indicator is lit.*

Digital 3R

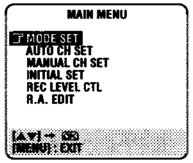
Digital 3R picture system applies edge correction to the luminance signal to enhance detail.

1 ACCESS MAIN MENU SCREEN

Press **MENU**.

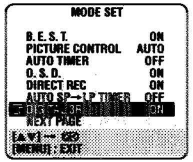
2 ACCESS MODE SET SCREEN

Move the highlight bar (pointer) to "MODE SET" by pressing △▽, then press **OK** or ▷.



3 SELECT DIGITAL 3R SET MODE

Move the highlight bar (pointer) to "DIGITAL 3R" by pressing △▽, then press **OK** or ▷ to set to "ON".



MODE SET

B. E. S. T. ON
PICTURE CONTROL AUTO
AUTO TIMER OFF
O. S. D. ON
DIRECT REC ON
AUTO SP→LP TIMER OFF
DIGITAL 3R ON
NEXT PAGE

4 RETURN TO NORMAL SCREEN

Press **MENU**.

NOTES:

- *Normally it is recommendable to keep "DIGITAL 3R" set to "ON".*
- *Depending on the type of tape being used, picture quality may be better with "DIGITAL 3R" set to "OFF".*

Repeat Playback

Your video recorder can automatically play back the whole tape 50 times repeatedly.

1 START PLAYBACK

Press **PLAY**.

2 ACTIVATE REPEAT PLAYBACK

Press **PLAY** and hold for over 5 seconds, then release.

- The Play indicator (▷) on the display panel blinks slowly.
- The tape plays 50 times automatically, and then stops.

3 STOP PLAYBACK

Press **STOP** at any time to stop playback.

NOTE:

*Pressing **PLAY**, **REW**, **FF** or **PAUSE** also stops Repeat Playback.*

Instant ReView

Simply by pressing a single button, the recorder power comes on, rewinds, and begins playback of the last timer-recorded programme. If you have several programmes recorded, you can easily access any of them.

NOTE:

Before starting, make sure that the recorder is off and that the Timer mode is disengaged.

1 ACTIVATE INSTANT REVIEW

Press **REVIEW**. The recorder power comes on and the recorder searches for the index code indicating the start of the last timer-recorded programme. Once it's found, playback begins automatically.

- The front display panel tells you how many programmes have been timer-recorded. If you have, for example, 3 programmes, "REVIEW" and "3" appear and blink. The REVIEW indicator on the recorder also blinks. To watch the first of the 3 programmes, press **REVIEW** three times. The recorder searches and begins playback automatically. You can access a programme as far as 9 index codes away from the current tape position.

NOTES:

- *Instant ReView is not possible while the recorder is in the Timer mode.*
- *The number of recorded programmes will not be displayed on the front display panel after Auto Satellite Prog recording (☞ pg. 35).*

Soundtrack Selection

Your video recorder is capable of recording three soundtracks (HI-FI L, HI-FI R and NORM) and will play back the one you select.

During Playback

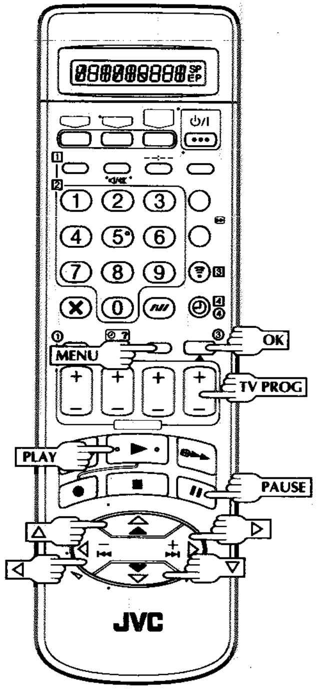
Pressing **AUDIO** on the remote control or **AUDIO MONITOR** on the recorder changes the soundtrack being played back as follows:

TRACK		USE
Recorder's Front Panel	On-Screen Display	
▷ + ◁	HI FI L ▷ ◁ R	For Hi-Fi stereo tapes
▷	HI FI L ▷	For main audio of Bilingual tapes
◁	HI FI ◁ R	For sub audio of Bilingual tapes
NORM	NORM	For audio-dubbed tapes
▷ + ◁ + NORM	HI FI NORM	For audio-dubbed tapes

NOTES:

- *"▷ + ◁" should normally be selected. In this mode, Hi-Fi stereo tapes are played back in stereo, and the normal audio track is played back automatically for tapes with only normal audio.*
- *For instructions on recording stereo and bilingual programmes, refer to page 25.*
- *"O.S.D." must be set to "ON" or the on-screen displays will not appear (☞ pg. 11).*

TimeScan



The **PLAY**, **PAUSE**, and **TV PROG** buttons on the recorder have the same function as those on the remote control.

Your recorder is equipped with the TimeScan function. TimeScan allows noise free pictures to be displayed on your TV screen in the forward and reverse search modes. Audio will be played back at normal speed during the TimeScan modes (☞ pg. 21). TimeScan also allows you to view a programme in search mode while listening to the audio.

NOTES:

- *"TIME SCAN AUDIO" must be set to "ON", or the sound will not be heard in TimeScan mode. (☞ pg. 21)*
- *The audio will not synchronize with the video in TimeScan modes.*
- *During 1.5x speed TimeScan the audio playback speed will also be 1.5 times normal, so dialog will sound fast-talking.*
- *In Pause mode 3 seconds (approx.) of audio will be played back repeatedly. (☞ pg. 16)*
- *In TimeScan search modes some of the audio information will not be played so that the audio can keep up with the video.*

Audio signal during TimeScan

Playback tape	①	②	③	④	⑤

Sound of ①, ③ and ⑤ is heard.
Sound of ② and ④ is not heard.
Output audio signal is normal (monaural) sound.

Variable-Speed Search

1 ACTIVATE VARIABLE-SPEED SEARCH

During playback, press ◁ or ▷.

- The more times you press, the faster the playback picture moves.
- To decrease speed, press the button for the opposite direction.
(Refer to the chart on page 21 for playback speeds).

To resume normal playback, press **PLAY**.

If the picture jitters vertically during still or variable-speed search with a MESECAM tape:
1 Press **PAUSE**.
2 Press **TV PROG** + or – so that the vibration stops.

TimeScan

Names of special-effects playback	Reverse								Forward								
	Search				Play	Slow-Motion (Time Jog**)		*Still	Slow-Motion (Time Jog**)		Play	Search					
Speed SP	-9x	-7x	-5x	-3x	-1x	-1/2x	-1/3x	0	1/3x	1/2x	1x	1.5x	2x	3x	5x	7x	9x
Speed LP		-7x		-3x		-1/2x		0		1/2x	1x	1.5x	2x		5x		9x
Audio output	Audio is output.					Audio is not output.		Audio is output.	Audio is output.		Audio is output.						

* Still mode cannot be engaged using the remote control's ◁ or ▷ button. Still mode can be engaged by pressing the **PAUSE** button.
** Smooth slow motion delivering an uninterrupted moving image without distortion.

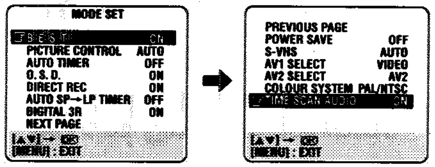
- If the picture jitters vertically, noise appears or the upper or lower part of the picture is distorded at -1/2x, -1/3x, 1/3x, 1/2x or 1.5x normal speed, use **TV PROG** + or – to correct the picture.
- When noise appears or the upper or lower part of the picture is distorted during TimeScan search, press **/////** and adjust tracking with **TV PROG** + or – button.
- The speed is shown during TimeScan in the upper right corner of the TV screen for approx. 5 seconds. (The display may be distorted.)
- To resume normal playback, press **PLAY**.
- Picture and audio may become distorted when the recording speed changes. When this happens, resume normal playback once, and then try using TimeScan again.
- The picture may be noisy or there may be a loss of colour when you change the playback speed. (More noise will appear with LP recordings.)
- Noise may appear or the upper part of the picture may be distorted during still, frame-by-frame playback, 2x search of LP recordings, or depending on the tape being used.
- Picture may appear distorted in comparison to normal playback.
- When normal playback resumes from search (including TimeScan), still, slow motion or frame-by-frame playback, the picture may jitter vertically momentarily depending on the type of TV being used.
- Depending on the tape in use, noise may appear or the upper part of the picture may be distorted.
- In TimeScan mode there will be a time lag between the video and the audio and noise may appear in the audio signal.
- TimeScan sound quality will differ in comparison to normal playback.
- When material such as music videos where there is non-stop sound (very few breaks in the soundtrack) are viewed at 1.5x or 2x normal speed, the audio playback may be faster than normal.
- Depending on the type of tape contents, the sound may not be clear during forward slow-motion playback.
- Time Jog cannot be activated by pressing **PAUSE** for longer than 2 seconds.
- When the playback direction is reversed, it takes approximately 6 seconds until sound is heard.
- Picture will be monochrome with an LP-recorded MESECAM tape during TimeScan.
- TimeScan does not work with NTSC playback.
- TimeScan at -1/2x, 1/2x and 1.5x normal speed are not possible with a MESECAM tape.
- The operations by **JOG** dial/**SHUTTLE** ring do not include TimeScan; noise will appear on the screen and audio will not be output.

If you don't want to hear TimeScan audio, set "TIME SCAN AUDIO" to "OFF" (See below).

TimeScan Audio

The audio output can be set ON/OFF during TimeScan. Select ON/OFF as required.
* The default setting is "ON".

1 Press **MENU** to access the Main Menu screen.
2 Move the highlight bar (pointer) to "MODE SET" by pressing △▽, then press **OK** or ▷.
3 Move the highlight bar (pointer) to "TIME SCAN AUDIO" by pressing △▽, then press **OK** or ▷ to select "ON" or "OFF".



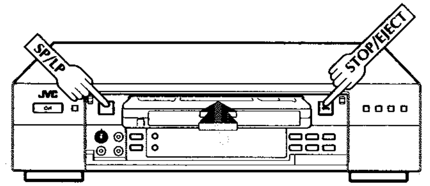
```
MODE SET
☞B.E.S.T.            ON
 PICTURE CONTROL    AUTO
 AUTO TIMER          OFF
 O.S.D.               ON
 DIRECT REC           ON
 AUTO SP→LP TIMER    OFF
 DIGITAL 3R           ON
 NEXT PAGE
[▲▼]→ OK
[MENU] : EXIT
```

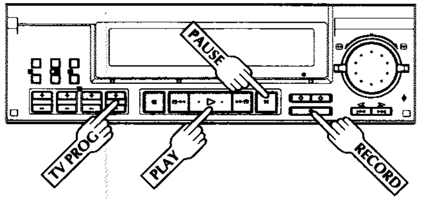
```
 PREVIOUS PAGE
 POWER SAVE          OFF
 S-VHS              AUTO
 AV1 SELECT        VIDEO
 AV2 SELECT          AV2
 COLOUR SYSTEM  PAL/NTSC
☞TIME SCAN AUDIO      ON
[▲▼]→ OK
[MENU] : EXIT
```

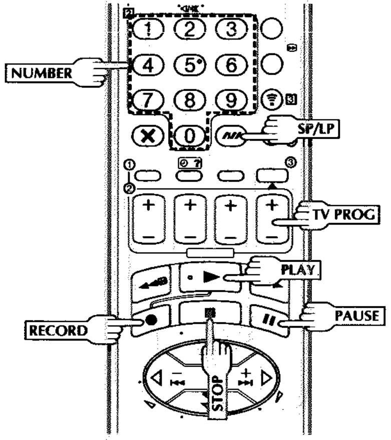
4 Press **MENU** to return to the normal screen.

Basic Recording

Turn on the TV and select the VIDEO channel (or AV mode).







Recording Resume Function

If there is a power outage during recording (or Instant Timer Recording or timer recording), the recording will resume automatically when power is restored to the recorder unless the recorder's memory backup has expired.

TV signals being received by the recorder's built-in tuner can be recorded onto a video tape. You can "capture" a TV programme using your video recorder.

1 LOAD A CASSETTE

Insert a cassette with the record safety tab intact.

- The counter is reset to 0:00:00 and the recorder power comes on automatically.

2 CHOOSE A PROGRAMME

Press **TV PROG** +/– or the **NUMBER** keys to select the channel you wish to record.

3 SET TAPE SPEED

Press **SP/LP** (**///**). Check the SP/LP indicator on the recorder display panel to confirm the selected tape speed.

4 START RECORDING

Press and hold **RECORD** and press **PLAY** on the remote control, or press **RECORD** on the recorder.

B.E.S.T. takes place at the beginning of both the first SP and the first LP recording after inserting the cassette (☞ pg. 26).

If "DIRECT REC" is set to "ON", the programme that appears on the TV screen will be recorded (☞ pg. 13).

5 PAUSE/RESUME RECORDING

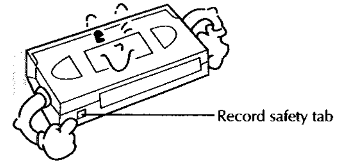
Press **PAUSE**. Press **PLAY** to resume recording.

6 STOP RECORDING

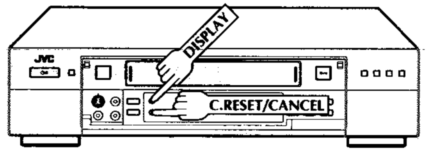
Press **STOP** on the remote control or **STOP/EJECT** on the recorder. Then press **STOP/EJECT** to remove the cassette.

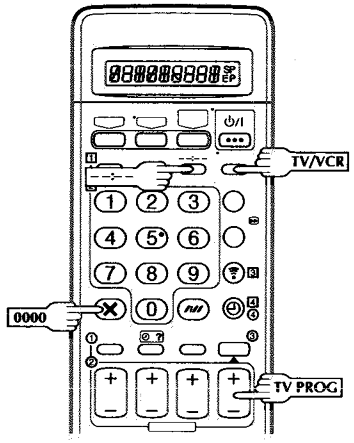
Accidental erasure prevention

- To prevent accidental recording on a recorded cassette, remove its safety tab. To record on it later, cover the hole with adhesive tape.



Recording Features





Instant Timer Recording (ITR)

This easy method lets you record for from 30 minutes to 6 hours (selectable in 30-min. increments), and shuts the recorder off after recording is finished.

1 START RECORDING

Press **RECORD** on the recorder.

2 ENGAGE ITR MODE

Press **RECORD** again. "◌" blinks and 0:30 appears on the front display panel.

3 SET RECORDING DURATION

If you want to record for more than 30 minutes, press **RECORD** to extend the time. Each press extends recording time by 30 minutes.

NOTE:

*You can only perform ITR using the **RECORD** button on the recorder's front panel.*

Record One Programme While Watching Another

If your recorder is connected to the TV via AV connection, . . .
. . . press **TV/VCR**. The recorder's VCR indicator and the TV broadcast being recorded disappear.

1 SELECT CHANNEL TO WATCH

Once recording is in progress, all you need to do is to set the channel controls on the TV for the station you wish to view.

- The programme selected with the TV's channel controls appears on the TV screen while the one selected with the recorder's **TV PROG** buttons is recorded on the tape.
- If a decoder is connected to the recorder (☞ pg. 54), you can select a scrambled channel as well with the TV channel controls.

Elapsed Recording Time Indication

You can check the exact time of a recording.

1 SET COUNTER DISPLAY

Press – –:– – (or **DISPLAY**) until a counter reading appears on the display panel.

2 RESET COUNTER

Press **0000** (or **C.RESET/CANCEL**) before starting recording or playback.

- The counter is reset to "0:00:00" and shows the exact elapsed time as the tape runs.

Tape Remaining Time

1 DISPLAY REMAINING TIME

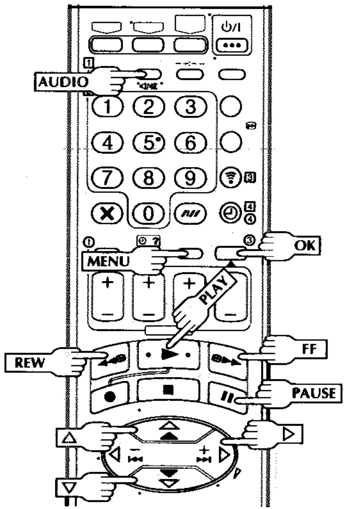
Press – –:– – (or **DISPLAY**) until the time remaining on the tape appears.

- The display panel shows the tape remaining time with "⊵" displayed.
- By pressing the – –:– – (or **DISPLAY**) button, you can change the display to show the counter reading, channel position*, clock time or tape remaining time.

** channel position is not displayed during playback.*

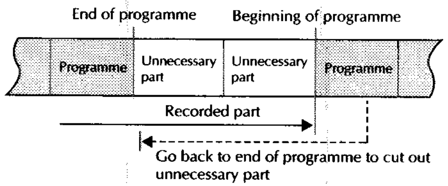
NOTE:

Depending on the type of tape used, there may be times when the tape remaining time reading may not appear right away, or is not correct. "– –:– –" may sometimes appear, or the display may blink on occasion.



Retake

You can cut out unnecessary parts of a TV programme while you're recording it.



1 ENGAGE RECORD-PAUSE MODE

Press **PAUSE** during recording.

2 LOCATE START POINT

Turn the **JOG** dial to the left or right (or hold down **REW** or **FF**) and release it when you reach the point where you want to resume recording.
* Your recorder returns to the Record-Pause mode.

3 RESUME RECORDING

Press **PLAY** when you wish to resume recording.

NOTE:

Retake function does not work during Direct Rec (☞ pg. 13).

S-VHS (Super VHS) and VHS

Your recorder can record in either S-VHS or VHS.

To record in S-VHS:
Perform the steps **1** – **4** below to set "S-VHS" to "AUTO".
Then, insert a cassette marked "S-VHS", the S-VHS indicator will light on the display panel.
The S-VHS recording mode will be selected.

To record in VHS:
Insert a cassette marked "VHS".
The VHS recording mode will be automatically selected regardless of the S-VHS mode setting.

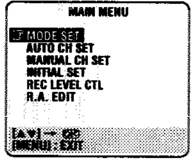
To record in VHS on an S-VHS cassette:
Insert the cassette marked "S-VHS", the S-VHS indicator will light on the display panel.
Then, perform the steps **1** – **4** below to set the "S-VHS" to "OFF"; the S-VHS indicator will go out.
The VHS recording mode will be selected.

1 ACCESS MAIN MENU SCREEN

Press **MENU**.

2 ACCESS MODE SET SCREEN

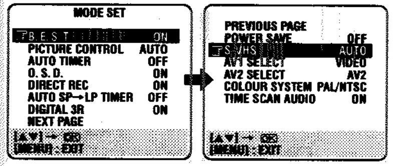
Move the highlight bar (pointer) to "MODE SET" by pressing △▽, then press **OK** or ▷.



MAIN MENU
MODE SET
AUTO CH SET
MANUAL CH SET
INITIAL SET
REC LEVEL CTL
R.A. EDIT
[▲▼] → OK
[MENU] : EXIT

3 SELECT S-VHS MODE

Move the highlight (pointer) to "S-VHS" by pressing △▽, then press **OK** or ▷ to select "AUTO" or "OFF".



MODE SET
B.E.S.T. ON
PICTURE CONTROL AUTO
AUTO TIMER OFF
O. S. D. ON
DIRECT REC ON
AUTO SP→LP TIMER OFF
DIGITAL 3R ON
NEXT PAGE
[▲▼] → OK
[MENU] : EXIT

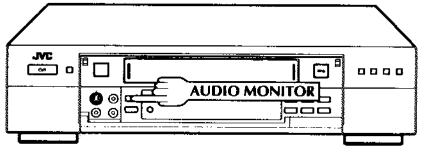
PREVIOUS PAGE
POWER SAVE OFF
S-VHS AUTO
AV1 SELECT VIDEO
AV2 SELECT AV2
COLOUR SYSTEM PAL/NTSC
TIME SCAN AUDIO ON
[▲▼] → OK
[MENU] : EXIT

4 RETURN TO NORMAL SCREEN

Press **MENU**.

NOTE:

When playing back a tape that has been recorded in S-VHS, the S-VHS indicator lights on the display panel regardless of the "S-VHS" mode setting.



Hi-Fi Audio Recording Level Control

Your recorder allows manual adjustment of the Hi-Fi audio recording level.

1 ACCESS MAIN MENU SCREEN

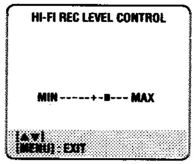
Press **MENU**.

2 ACCESS HI-FI REC LEVEL CONTROL SCREEN

Press △▽ to move the highlight bar (pointer) to "REC LEVEL CTL", then press **OK** or ▷.

3 ADJUST AUDIO RECORDING LEVEL

Press △ or ▽.



HI-FI REC LEVEL CONTROL
MIN-----+-■---MAX
[▲▼]
[MENU] : EXIT

- Press △ or ▽ briefly 5 times to move the on-screen's audio levels by one division on the scale. To move the audio levels faster, keep △ or ▽ pressed.
- Adjust the recording level while watching the recorder's audio level meters. Set the level so that maximum volume causes the meters to vary between 0dB to 4dB.

4 RETURN TO NORMAL SCREEN

Press **MENU**.

NOTES:

- *Noise will increase if the recording level is too low, while distortion will increase if the level is too high.*
- *When you finished Hi-Fi Audio recording, be sure to set the level control back to its centre position.*

Receiving Stereo And Bilingual Programmes

Your recorder is equipped with a Sound-Multiplex decoder (A2) and a Digital stereo sound decoder (NICAM) making reception of stereo and bilingual broadcasts possible.

When the channel is changed, the type of broadcast being received will be displayed on the TV screen for a few seconds.

Type of Broadcast Being Received	On-screen Display
A2 Stereo	ST
A2 Bilingual	BIL
Regular Monaural	(none)
NICAM Stereo	ST NICAM
NICAM Bilingual	BIL NICAM
NICAM Monaural	NICAM

- To listen to a stereo programme, press **AUDIO** (or **AUDIO MONITOR**) until "▷" and "◁" appear on the front display panel or "HIFI L ▷ ◁ R" appears on the screen.
- To listen to a bilingual programme, press **AUDIO** (or **AUDIO MONITOR**) until "▷" or "◁" appears on the front display panel, or "HIFI L ▷" or "HIFI ◁ R" appears on the screen (as required).
- To listen to the Standard (regular monaural) audio while receiving a NICAM broadcast, press **AUDIO** (or **AUDIO MONITOR**) until "NORM" appears on the front display panel or on the screen.

NOTE:

"O.S.D." must be set to "ON" or the on-screen displays will not appear (☞ pg. 11).

To Record Stereo And Bilingual Programmes (A2)

- Stereo programmes are automatically recorded in stereo on the Hi-Fi audio track (with the normal audio track recording mixed L and R channel sound).
- Bilingual programmes are automatically recorded in bilingual on the Hi-Fi audio track. The main soundtrack will be recorded on the normal audio track.

To Record NICAM Stereo And Bilingual Programmes

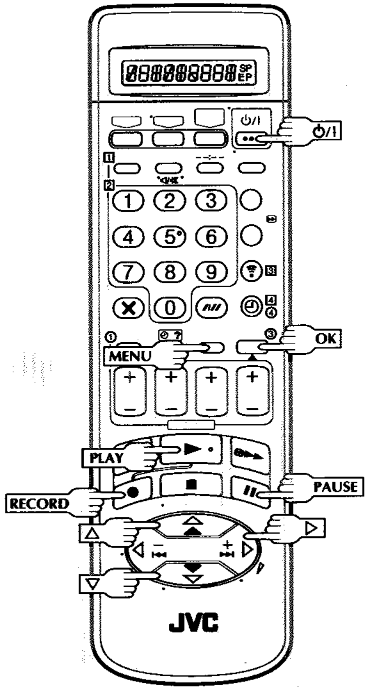
The NICAM audio programme will be recorded on the Hi-Fi audio track, and the Standard audio programme on the normal audio track.

NOTES:

- *If the quality of stereo sound being received is poor, the broadcast will be received in monaural with better quality.*
- *Before playing back a programme recorded in stereo, or a bilingual programme, refer to "Soundtrack Selection" (☞ pg. 19).*

B.E.S.T. Picture System

Turn on the TV and select the VIDEO channel (or AV mode).



The ⏻/I, **PLAY**, **RECORD**, and **PAUSE** buttons on the recorder have the same function as those on the remote control.

The B.E.S.T. (Biconditional Equalised Signal Tracking) system checks the condition of the tape in use during recording and playback, and compensates to provide the highest-possible recording and playback pictures. The default setting for both recording and playback is "ON".

Preparation

1 TURN ON THE RECORDER

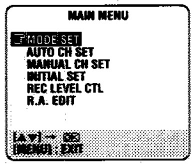
Press ⏻/I.

2 ACCESS MAIN MENU SCREEN

Press **MENU**.

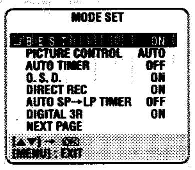
3 ACCESS MODE SET SCREEN

Press △▽ to move the highlight bar (pointer) to "MODE SET", then press **OK** or ▷.



4 SELECT B.E.S.T. MODE

Press △▽ to move the highlight bar (pointer) to "B.E.S.T.", then press **OK** or ▷ to set to "ON" or "OFF".


MODE SET
B.E.S.T. ON
PICTURE CONTROL AUTO
AUTO TIMER OFF
O.S.D. ON
DIRECT REC ON
AUTO SP→LP TIMER OFF
DIGITAL 3R ON
NEXT PAGE
[▲▼] → OK
[MENU] : EXIT

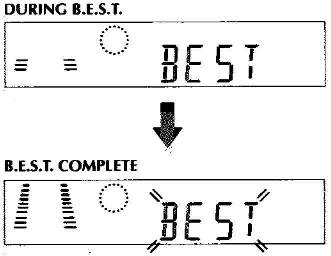
5 RETURN TO NORMAL SCREEN

Press **MENU**.

Recording

1 START RECORDING

Press and hold **RECORD** and press **PLAY** on the remote, or press **RECORD** on the recorder.



- The recorder spends approximately 7 seconds assessing the condition of the tape, then begins recording.

NOTES:

- *The B.E.S.T. system works for both SP and LP modes only after a tape has been inserted and the Record mode is first initiated. It does not work during recording.*
- *The B.E.S.T. system does not work while Auto Satellite Prog recording is in progress (☞ pg. 35).*
- *In the case of timer recording, the B.E.S.T. system works before recording is initiated.*
- *Once the cassette is ejected, the B.E.S.T. data is cancelled. The next time the cassette is used for recording, B.E.S.T. is re-performed.*
- *Pressing the recorder's **RECORD** button while "BEST" is displayed does not start Instant Timer Recording (☞ pg. 23).*

ATTENTION

*Since the B.E.S.T. system works before recording actually starts, there is a delay of approximately 7 seconds after **RECORD** and **PLAY** on the remote are pressed, or **RECORD** on the recorder is pressed. To make sure you record the desired scene or programme in its entirety, first perform the following steps:*

1) *Press and hold **PAUSE** and press **RECORD** to engage the RECORD PAUSE mode.*
  - *The recorder then automatically checks the condition of the tape and, after approximately 7 seconds, re-enters RECORD PAUSE.*

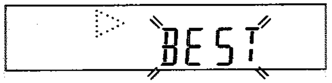
2) *Press **PLAY** to start recording.*
  - *If you want to bypass the B.E.S.T. system and begin recording immediately, set "B.E.S.T." to "OFF" in step **4** on page 26.*

Playback

The recorder assesses the quality of the tape once you initiate playback.

1 START PLAYBACK

Press **PLAY**.



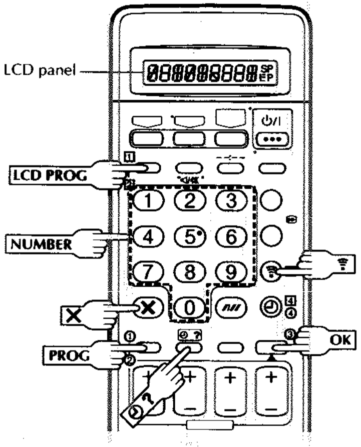
- The recorder adjusts the playback picture quality based on the quality of the tape in use.
- B.E.S.T. is active during Auto Tracking. "BEST" appears blinking on the recorder's display panel.

NOTES:

- *When watching a tape recorded with "B.E.S.T." set to "ON", it is recommended that you leave B.E.S.T. on during playback as well.*
- *When watching a rental tape or one recorded on another video recorder, or when using this recorder as the player for editing, set B.E.S.T. to your preference by performing steps **1** through **5** on page 26.*
- *"BEST" only appears at the beginning of automatic tracking. Even though it doesn't appear after that, the B.E.S.T. function is operative.*

SHOWVIEW Timer Programming

Before performing SHOWVIEW Timer Programming:
- Make sure that the recorder's built-in clock is set properly.
- Insert a cassette with the safety tab in place. The recorder will come on automatically.
- Turn on the TV and select the VIDEO channel (or AV mode).

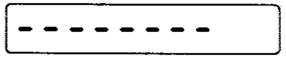


You can use the remote control with LCD panel to enter the SHOWVIEW number.

1 ACCESS SHOWVIEW DISPLAY

Press **LCD PROG**.

The LCD panel looks like this:

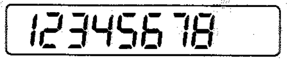


2 ENTER SHOWVIEW NUMBER

Press the **NUMBER** keys to enter the SHOWVIEW number of a programme you wish to record, then press ⯑.

- If you make a mistake, press X and input the correct number.

The SHOWVIEW number you enter appears on the LCD panel:

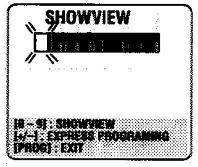


Then go to step 3 in the right column.

With SHOWVIEW, timer programming is greatly simplified because each TV programme has a corresponding code number which your recorder is able to recognize.

1 ACCESS SHOWVIEW SCREEN

Press **PROG**.

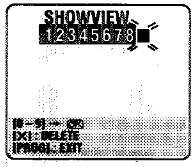


The front display panel looks like this:

2 ENTER SHOWVIEW NUMBER

Press the **NUMBER** keys to enter the SHOWVIEW number of a programme you wish to record, then press **OK**.

- If you make a mistake, press X and input the correct number.

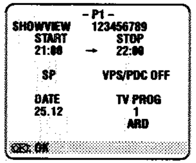


The SHOWVIEW number you enter appears on the front display panel:

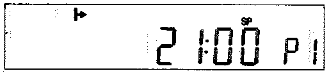
The display panel can show only a 4-digit number.

3 ACCESS SHOWVIEW PROGRAM SCREEN

The SHOWVIEW Program screen appears (if you're just starting out, "P1" appears).

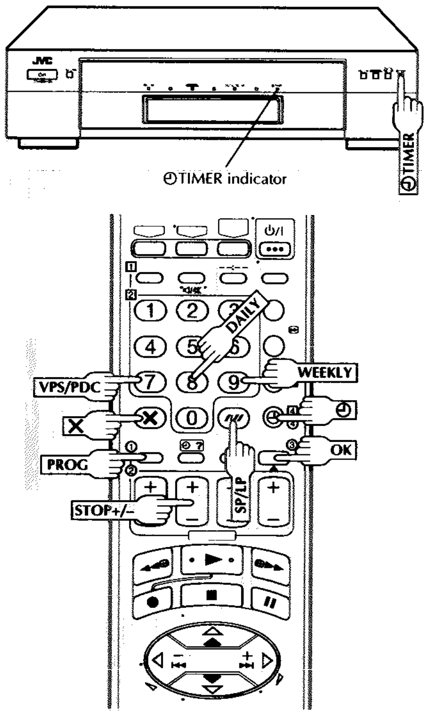


The display panel shows the programme start time. Pressing ⊕ ? changes the display to the programme stop time, then the date and channel position.



IMPORTANT
Make sure the channel position number you wish to record is displayed; if not, see "SHOWVIEW Setup" on page 66 and set the Guide Program number for that SHOWVIEW number correctly.

- If the number you entered is invalid, "ERROR" appears on the screen and "Err" appears on the display panel. Press X and input a valid SHOWVIEW number.
- If the "GUIDE PROG SET" screen appears, see "ATTENTION – Regarding Guide Program Number Set" on page 29.



4 SET TAPE SPEED

Press **SP/LP (/////)** to set the tape speed.

5 SET VPS/PDC MODE

Press **VPS/PDC** to select "ON" or "OFF".

If "VPS/PDC ON" is displayed on the screen or "VPS/PDC" is lit on the display panel, VPS/PDC is set to ON. If "VPS/PDC OFF" is displayed on the screen or "VPS/PDC" is not lit on the display panel, VPS/PDC is set to OFF.

☞ "VPS/PDC Recording" on page 31.

6 RETURN TO NORMAL SCREEN

Press **PROG** or **OK**. "PROGRAM COMPLETED" appears on the screen for about 5 seconds, then normal screen appears.

- Repeat steps **1** – **6** for each additional programme.

7 ENGAGE RECORDER'S TIMER MODE

Press ⊕ (or ⊕**TIMER**). The recorder turns off automatically and ⊕ appears on the display panel. The ⊕TIMER indicator on the recorder also lights up.

- To disengage the timer, press ⊕ (or ⊕**TIMER**) again.

NOTES:
- *To Change The Stop Time . . .*
  *. . . press **STOP +/–** in step **3**. You can compensate for anticipated programme schedule delays this way.*
- *To Timer-Record Weekly Or Daily Serials . . .*
  *. . . in step **3**, press **WEEKLY** (**NUMBER** key "9") for weekly serials or **DAILY** (**NUMBER** key "8") for daily serials (Monday – Friday). Either "WEEKLY" or "DAILY" appears on the screen. Pressing the button again makes the corresponding indication disappear.*
- *You can programme this recorder to timer-record as many as 8 programmes. If you try to programme the recorder to record a ninth, "PROGRAM FULL" appears on screen and "FULL" appears on the front display panel. To record the extra programme, you must first cancel any unnecessary programmes (☞ pg. 32).*
- *It is not possible to timer-record a TV programme with a SHOWVIEW number which starts with "0".*

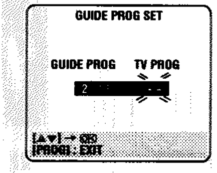
Satellite Tuner Users
To timer-record a satellite broadcast using SHOWVIEW:
1. Set "AV2 SELECT" to "AV2" (☞ pg. 44).
2. Perform steps **1** – **7**.
3. Set the satellite tuner to the appropriate channel before the selected programme begins.
4. Leave the satellite tuner's power on.

ATTENTION

Regarding Guide Program Number Set

"GUIDE PROG SET" appears after performing step **3** if the Guide Program number for the SHOWVIEW number you entered has not been set.

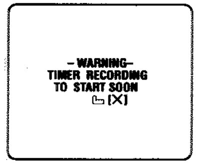
- Press the **NUMBER** keys or △▽ to input the channel position number on which your recorder receives that station, then press **OK** or ▷ to set the Guide Program number. The SHOWVIEW program screen appears.



(Ex.) To timer-record a ZDF programme with SHOWVIEW.
* If your recorder receives ZDF on the channel position 2, press **OK** or ▷ after entering "2".

Timer Warning

If you have programmed your recorder to timer-record a programme or a series of programmes, a warning appears on screen to tell you that the recording is to start in 5 minutes.

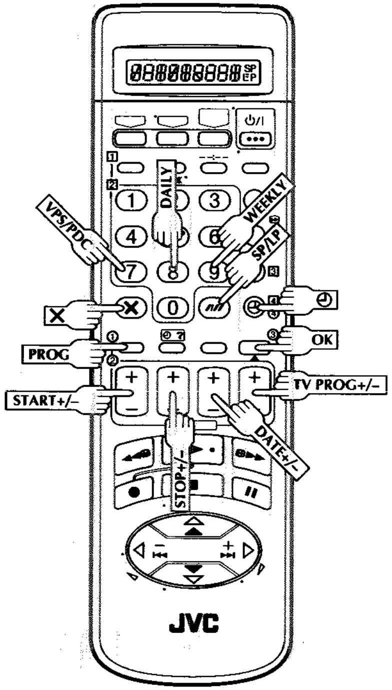


NOTES:
- *The warning only appears if you're not in the Timer mode at that time.*
- *If this recorder is being used as the player for tape dubbing, the warning screen is recorded on the tape in the other video recorder.*

The warning blinks for the entire 5 minutes leading up to the start of timer recording. To clear the display, press X.

Express Timer Programming

Before performing Express Timer Programming:
- Make sure that the recorder's built-in clock is set properly.
- Insert a cassette with the safety tab in place. The recorder will come on automatically.
- Turn on the TV and select the VIDEO channel (or AV mode).



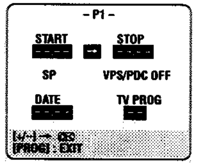
If you don't know the ShowView number for the programme you wish to record, use the following procedure to set your recorder to timer-record the programme.

1 ACCESS SHOWVIEW SCREEN

Press **PROG**.

2 ACCESS PROGRAMME SCREEN

Press **START +/–**. (If you're just starting out, "P1" appears.)

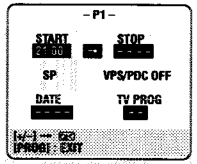


The front display panel looks like this:

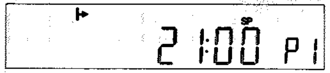
3 ENTER PROGRAMME START TIME

Press **START +/–** to enter the time you want recording to start.

- Press and hold **START** +/– to move in 30-minute increments, or press and release repeatedly to move 1 minute at a time.



The front display panel looks like this:



4 ENTER PROGRAMME STOP TIME

Press **STOP +/–** to enter the time you want recording to stop.

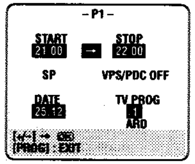
- Press and hold **STOP +/–** to move in 30-minute increments, or press and release repeatedly to move 1 minute at a time.

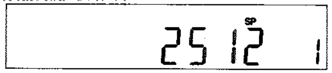
5 ENTER PROGRAMME DATE

Press **DATE +/–**. (The current date appears on screen. The date you enter appears in its place.)

6 ENTER CHANNEL POSITION

Press **TV PROG +/–**.





7 SET TAPE SPEED

Press **SP/LP (▮▮▮)** to set the tape speed.

8 SET VPS/PDC MODE

Press **VPS/PDC** to select "ON" or "OFF".
If "VPS/PDC ON" is displayed on the screen or "VPS/PDC" is lit on the display panel, VPS/PDC is set to ON. If "VPS/PDC OFF" is displayed on the screen or "VPS/PDC" is not lit on the display panel, VPS/PDC is set to OFF.
☞ "VPS/PDC Recording" in the right column.

9 RETURN TO NORMAL SCREEN

After confirming all information is correct, press **PROG** or **OK**. "PROGRAM COMPLETED" appears on the screen for about 5 seconds, then normal screen appears.

- Repeat steps **1** – **9** for each additional programme.

10 ENGAGE RECORDER'S TIMER MODE

Press ⊕ (or **⊕TIMER**). The recorder turns off automatically and ⊕ appears on the display panel. The ⊕TIMER indicator on the recorder also lights up.

- To disengage the timer, press ⊕ (or **⊕TIMER**) again.

To Timer-Record Weekly Or Daily Serials . . .
. . . anytime during steps **2** through **9**, press **WEEKLY** (**NUMBER** key "9") for weekly serials or **DAILY** (**NUMBER** key "8") for daily serials (Monday – Friday). Either "WEEKLY" or "DAILY" appears on the screen. Pressing the button again makes the corresponding indication disappear.

NOTE:

You can programme this recorder to timer-record as many as 8 programmes. If you try to programme the recorder to record a ninth, "PROGRAM FULL" appears on screen and "FULL" appears on the front display panel. To record the extra programme, you must first cancel any unnecessary programmes (☞ pg. 32).

Satellite Tuner Users
To timer-record a satellite broadcast using Express Timer Programming:
1. Set "AV2 SELECT" to "AV2" (☞ pg. 44).
2. Perform steps **1** – **10**. Enter "L-2" for the channel position in step **6**.
3. Set the satellite tuner to the appropriate channel before the selected programme begins.
4. Leave the satellite tuner's power on.

VPS/PDC Recording

Now available from some TV stations, PDC (Programme Delivery Control) and VPS (Video Programme System) are service designed to assure safe, accurate timer recording. With this system, special code signals are transmitted together with the audio/video signals. These code signals control your video recorder and have precedence over the advertised times you may have preset into the timer. This means that your recorder will start and stop recording when the preset TV programmes actually start and end — even if the broadcast time of a preset TV programme is changed.

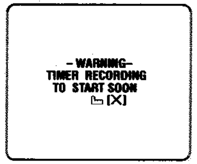
NOTES:

- *When you use Express Timer Programming, set the start time (VPS or PDC time) exactly as advertised in the TV listing. A different time than advertised will result in no recording.*
- *VPS/PDC recording is also possible when a satellite tuner or a cable system is connected to AV2 IN/DECODER on your recorder.*
- *VPS/PDC recording is also possible via the AV1 IN/OUT connector.*

How to check if the station being received transmits a VPS/PDC signal
1. Press – –:– – until the channel position appears on the display panel.
2. Hold down **START+** for about 5 seconds.
   - "VPS/PDC" appears blinking on the display panel.
   If a VPS/PDC signal is detected from the station, "VPS/PDC" will stop blinking.
   If no VPS/PDC signal is detected from the station, "VPS/PDC" will blink at a slower rate.
3. Press – –:– – or **START+** again to return to normal display.

Timer Warning

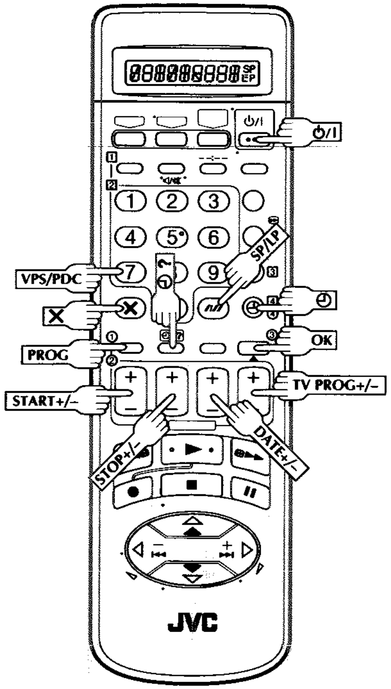
If you have programmed your recorder to timer-record a programme or a series of programmes, a warning appears on screen to tell you that the recording is to start in 5 minutes.



NOTES:

- *The warning only appears if you're not in the Timer mode at that time.*
- *If this recorder is being used as the player for tape dubbing, the warning screen is recorded on the tape in the other video recorder.*

The warning blinks for the entire 5 minutes leading up to the start of timer recording. To clear the display, press **X**.



NOTE:
You can also check the programmes on the display panel even if the recorder's power is off (unless the recorder is in the Power Save mode ☞ pg. 12) or the recorder is in the Timer mode; however, it is not possible to cancel or replace the programmes.

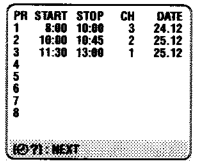
Check, Cancel And Replace Programmes

1 DISENGAGE TIMER MODE

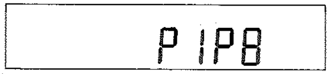
Press ⊕ (or ⊕TIMER), then press Ô/I.

2 ACCESS PROGRAM CHECK SCREEN/DISPLAY

Press ⊕ ?.

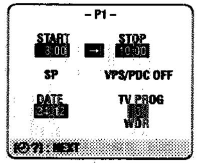


```
PR  START  STOP   CH   DATE
1    8:00  10:00   3   24.12
2   10:00  10:45   2   25.12
3   11:30  13:00   1   25.12
4
5
6
7
8
(⊕?) : NEXT
```

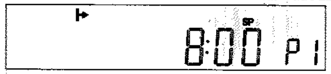


3 ACCESS PROGRAM SCREEN/ DISPLAY

Press ⊕ ? again to check more information. Each time you press ⊕ ?, the next programme's information appears.



```
– P1 –
START       STOP
 8:00   →   10:00
SP          VPS/PDC OFF
DATE        TV PROG
24.12         3
             WDR
(⊕?) : NEXT
```



- The display panel shows the programme start time. Pressing **OK** changes the display to the programme stop time, then the date and the channel position.

To cancel or replace a programme...

4 CANCEL OR REPLACE A PROGRAMME

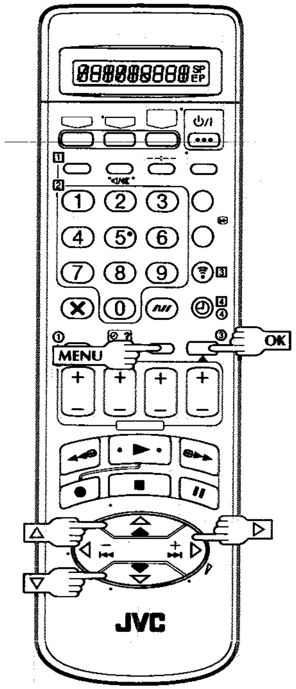
Press X (or **C.RESET/CANCEL**) to cancel a programme.
To replace a programme, press the appropriate button: **START+/–, STOP+/–, DATE+/–, TV PROG+/–, VPS/PDC, SP/LP (/////)**.

5 RETURN TO NORMAL SCREEN/ DISPLAY

Press ⊕ ? as many times as necessary. If there are still some programmes remaining, go on to step **6**.

6 RETURN TO TIMER MODE

Press ⊕ (or ⊕**TIMER**).



Auto SP→LP Timer

If, when timer-recording in SP mode, there is not enough tape to record the entire programme, the recorder automatically switches to LP mode to allow complete recording.
For Example . . .
Recording a programme of 210 minutes in length onto a 180-minute tape

Approximately 150 minutes	Approximately 60 minutes
SP mode	LP mode
Total 210 minutes	

Make sure you set "AUTO SP→LP TIMER" to "ON" at the Mode Set screen before the timer-recording starts.

1 ACCESS MAIN MENU SCREEN

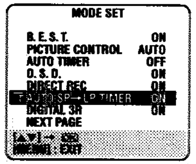
Press **MENU**.

2 ACCESS MODE SET SCREEN

Press △▽ to move the highlight bar (pointer) to "MODE SET", then press **OK** or ▷.

3 SELECT MODE

Press △▽ to move the highlight bar (pointer) to "AUTO SP→LP TIMER", then press **OK** or ▷ to select "ON".



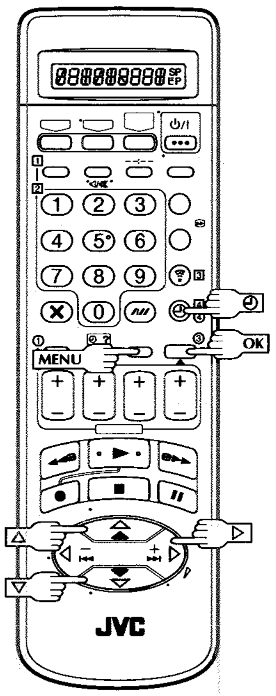
```
MODE SET

B.E.S.T.               ON
PICTURE CONTROL      AUTO
AUTO TIMER            OFF
O.S.D.                 ON
DIRECT REC             ON
AUTO SP→LP TIMER       ON
DIGITAL 3R             ON
NEXT PAGE
[▲▼] → [illegible]
[illegible] : EXIT
```

4 RETURN TO NORMAL SCREEN

Press **MENU**.

NOTES:

- *If you have programmed the recorder to timer-record 2 or more programmes, the second programme and those thereafter may not fit on the tape if you set "AUTO SP→LP TIMER" to "ON". In this case, make sure the mode is not engaged, then set the tape speed manually during timer programming.*
- *In order to ensure that the recording fits on the tape, this feature may leave a slight non-recorded section at the end of the tape.*
- *There may be some noise and sound disturbance at the point on the tape where the recorder switches from SP to LP mode.*
- *The Auto SP→LP Timer feature is not available during ITR (Instant Timer Recording), and the feature will not work properly with any tapes longer than E-180 or with some tapes of shorter lengths.*
- *If you perform timer recording with both VPS/PDC and the Auto SP→LP Timer activated, and the programme goes beyond its originally scheduled length, there may be times when the programme cannot be recorded in its entirety.*



Auto Timer

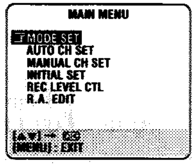
When the Auto Timer is set to ON the timer is automatically engaged when the recorder power is turned off and automatically disengaged when the recorder is powered back on.

1 ACCESS MAIN MENU SCREEN

Press **MENU**.

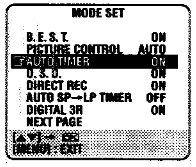
2 ACCESS MODE SET SCREEN

Press △▽ to move the highlight bar (pointer) to "MODE SET", then press **OK** or ▷.



3 SELECT MODE

Press △▽ to move the highlight bar (pointer) to "AUTO TIMER", then press **OK** or ▷ to select either "ON" or "OFF".



4 RETURN TO NORMAL SCREEN

Press **MENU**.

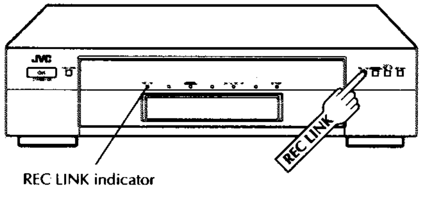
NOTE:

*For safety, when Auto timer is set to "OFF", all other recorder functions are disabled while the Timer mode is engaged. To disengage the timer, press ⊕ (or ⊕**TIMER**).*

Automatic Satellite Programme Recording

This facility allows you record automatically a satellite programme which is timer-programmed on your external satellite tuner.
Connect a satellite tuner to the recorder's AV2 IN/DECODER connector (☞ pg. 51, 52) and programme the timer on the satellite tuner; the recorder starts recording when the signals input from the satellite tuner to the AV2 IN/DECODER connector, and when there is no input signals the recorder stops recording and the power shuts off.

Before performing the following steps:
- Make sure the satellite tuner is connected to the recorder's AV2 IN/DECODER connector. (☞ pg. 51, 52)
- Programme the timer on the satellite tuner.
- Insert a cassette with the safety tab in place.



REC LINK indicator

ATTENTION
- Be sure not to turn on the satellite tuner before the programme is executed; otherwise, the recorder will start recording when the satellite tuner's power is turned on.
- If you have connected another appliance other than a satellite tuner to the AV2 IN/DECODER connector, be sure not to engage the Auto Satellite Prog Rec mode; otherwise, the recorder will start recording when the connected appliance's power is turned on.
- Auto Satellite Prog recording and timer-recording cannot be done at the same time.

1 SELECT AV2 SELECT MODE

Set "AV2 SELECT" to "AV2" (☞ pg. 44).

- When you select "SAT", refer to "IMPORTANT" on page 51.

2 SET TAPE SPEED

Press **SP/LP (▮/▮▮)** to set the tape speed.

3 ENGAGE AUTO SATELLITE PROG REC MODE

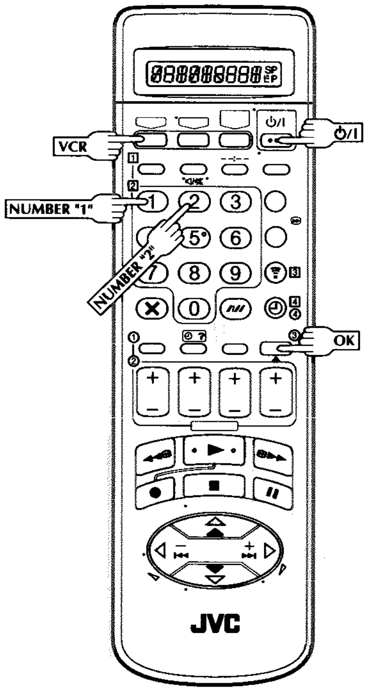
Press and hold **REC LINK** on the recorder for about 2 seconds. The REC LINK indicator lights up and the recorder turns off automatically.

- To disengage the Auto Satellite Prog Rec mode, press **REC LINK**. The REC LINK indicator goes off.
- If the recorder's power is off, it is not possible to engage the Auto Satellite Prog Rec mode.

NOTES:
- *Auto Satellite Prog recording is possible with the AV2 IN/DECODER connector only. (☞ pg. 51, 52)*
- *For timer programming of the satellite tuner, refer to the instruction manual of the satellite tuner.*
- *Auto Satellite Prog recording is not possible if your satellite tuner does not have a timer.*
- *The REC LINK indicator blinks while Auto Satellite Prog recording is in progress.*
- *Pressing the recorder's ⏻/I button while Auto Satellite Prog recording is in progress turns off the recorder's power and disengage the Auto Satellite Prog Rec mode.*
- *If there are more than one satellite programme you wish to record with Auto Satellite Prog Recording, it is not possible to set the different tape speed per each; the tape speed selected in step **2** will be applicable to all the programmes for Auto Satellite Prog recording.*
- *The B.E.S.T. system (☞ pg. 26) does not work while Auto Satellite Prog recording is in progress.*
- *Just Clock (☞ pg. 64) does not work when the Auto Satellite Prog Rec mode is engaged.*
- *Depending on the type of satellite tuner, the recorder may not record a slight portion of the beginning of the programme or may record slightly longer than the actual length of the programme.*
- *If you engage the Auto Satellite Prog Recording mode when the satellite tuner's power is on, the recorder will not start Auto Satellite Prog recording even though the REC LINK indicator blinks. When the satellite tuner shuts off once and is turned back on again, the recorder starts recording.*
- *When the Auto Satellite Prog Rec mode is engaged or the recorder's power is turned off after Auto Satellite Prog recording is finished, the recorder will not enter the Timer mode even though "AUTO TIMER" is set to "ON".*
- *After Auto Satellite Programme recording, the number of recorded programmes will not be displayed on the front display panel for the Instant ReView function (☞ pg. 19).*
- *You can also record a programme from your cable system in the same way if the system has a timer.*
- *When you press and hold the recorder's **REC LINK** button to engage the Auto Satellite Prog Rec mode, if the REC LINK indicator does not light but instead blinks quickly even though your satellite tuner's power is off, Auto Satellite Prog Recording will not work properly with that satellite tuner*.*
  If this is the case, perform "Express Timer Programming" (☞ pg. 30) to timer-record a satellite programme.

** Some satellite tuners output signals even if the power is off. Auto Satellite Prog Recording is not possible with those satellite tuners.*

Remote Control Functions



Remote A/B Code Switching

The remote control is capable of controlling two JVC video recorders independently; one set to respond to the remote control's A code control signals and another set to respond to B code control signals. The remote control is preset to send A code signals because your video recorder is initially set to respond to A code signals. You can easily modify your video recorder to respond to B code signals.

1 REMOVE POWER SUPPLY

Unplug the mains power cord from the mains outlet.

2 SET REMOTE CONTROL CODE

Press and hold **VCR** on the remote control for over 2 seconds, press the **NUMBER** key "2" and then press **OK**.

3 RE-SUPPLY POWER

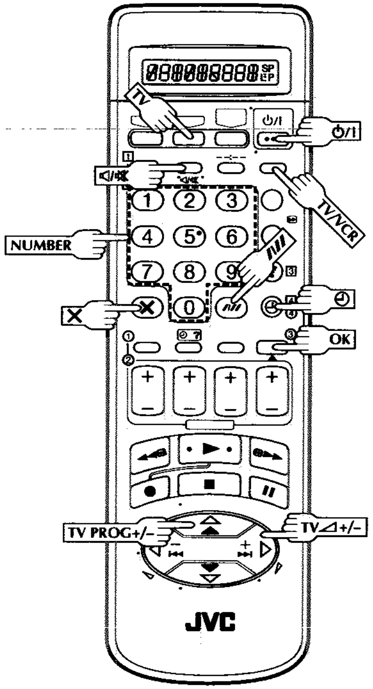
Plug the mains power cord back into the mains outlet.

4 TURN THE RECORDER ON

Press ⏻/I on the remote control. The recorder will now only respond to B code signals.

NOTE:

*To set the recorder back to respond to A code signals, repeat the same procedure as shown above except pressing **NUMBER** key "1" instead of "2" in step **2**.*



TV Multi-brand Remote Control

Your remote control can operate the basic functions of your TV set. In addition to JVC TVs, other manufacturer's TVs can also be controlled.

Before you start . . .
- Turn off the TV using its remote control.

1 SET TV BRAND CODE

Refer to the chart below. Press and hold **TV** on the recorder's remote control for over 2 seconds, enter your TV's brand code using the **NUMBER** keys, then press **OK**.
Check if the TV's power goes on as it should. If it does, try other operations (☞ step **2**).

- Once you have set the remote control to operate the TV, you don't have to repeat this step until you replace your remote control's battteries.
- JVC or SAMSUNG has more than one code. If the TV does not function with one code, try entering another.

2 OPERATE TV

First, press **TV** to set the remote control to TV mode, then press the corresponding button: ⏻/I, **TV PROG +/–**, **TV/VCR**, **TV ⊿ +/–** (Volume), **🔇** (Muting), **NUMBER** keys.

- For some brands of TV, you must press **OK** after having pressed the **NUMBER** keys.

IMPORTANT

Although the provided remote control unit is compatible with JVC televisions, as well as many other models, it may not work with your TV, or in some instances, may have limited function capability.

TV BRAND NAME	CODE
JVC	01, 23, 24, 25
BLAUPUNKT	19
BRANDT	26
FERGUSON	27
FINLUX	30
FUNAI	32
LG/GOLDSTAR	18
GRAETZ	28
GRUNDIG	19
HITACHI	10
ITT	28
LUXOR	28
MITSUBISHI	03
MIVAR	29
NEC	20
NOKIA	31
NORDMENDE	26
PANASONIC	11
PHILIPS	02
SABA	26
SALORA	28
SAMSUNG	02, 12, 33, 34, 35
SELECO	28
SHARP	06
SONY	07
TELEAVIA	26
TELEFUNKEN	26
THOMSON	26
TOSHIBA	14

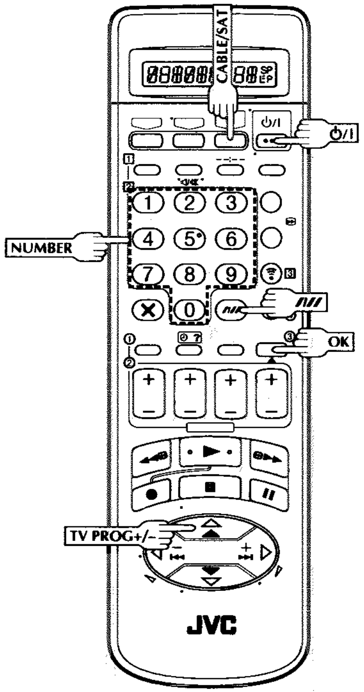
Control Your TV Using Additional Buttons

Use the **NUMBER** keys, and the **///** button, X button or ⊕ button to select the TV's channel.

- With televisions under Code 01, 02, 07, 10, 11, 14, 20, 23, 24, 25, 27, 33 or 35, the **///** button corresponds to the 1-digit/2-digit entry switching button (often labelled –/– –) of your TV's remote control.
- With televisions under Code 01, 28, 29 or 34, the X button corresponds to the 10 + button, and the ⊕ button corresponds to the 20 + button of your TV's remote control.

NOTE:

The way these buttons are used is determined by your TV. Use these buttons as instructed for your TV's remote control.



Satellite Tuner Multi-Brand Remote Control

Your remote control can operate the basic functions of your satellite tuner set. In addition to JVC satellite tuners, other manufacturer's satellite tuners can also be controlled.

Before you start . . .
- Turn off the satellite tuner using its remote control.

1 SET SATELLITE TUNER BRAND CODE

Refer to the chart below. Press and hold **CABLE/SAT** on the recorder's remote control for over 2 seconds, enter your satellite tuner's brand code using the **NUMBER** keys, then press **OK**.
Check if the satellite tuner's power goes on as it should. If it does, try other operations (☞ step **2**).

- Once you have set the remote control to operate the satellite tuner, you don't have to repeat this step until you replace your remote control's battteries.
- Some satellite tuner brands have more than one code. If the satellite tuner does not function with one code, try entering another.

2 OPERATE SATELLITE TUNER

First, press **CABLE/SAT** to set the remote control to satellite tuner mode, then press the corresponding button: ⏻/I, **TV PROG +/–**, **NUMBER** keys.

- For VIDEOWAY or some brands of satellite tuner, you must press **///** after having pressed the **NUMBER** keys.
- The **NUMBER** buttons may not function with some satellite tuners.

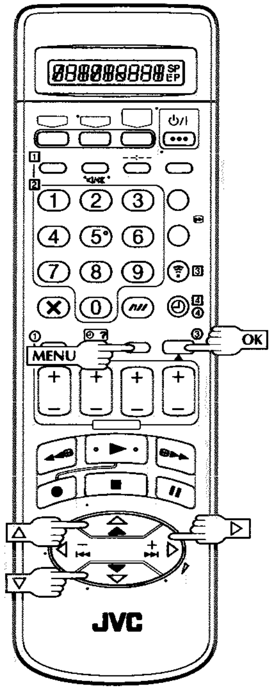
IMPORTANT

Although the provided remote control unit is compatible with JVC satellite tuners, as well as many other models, it may not work with your satellite tuner, or in some instances, may have limited function capability.

SATELLITE TUNER BRAND	CODE
JVC	72, 73
AMSTRAD	60, 61, 62, 63
BT	72
CANAL +	81
FINLUX	68
GRUNDIG	64, 65
HIRSCHMANN	64
ITT	68
JERROLD	75
KATHREIN	70, 71
LUXOR	68
MASPRO	70
NOKIA	68
PACE	65, 67
PANASONIC	74
PHILIPS	66
RFT	69
SALORA	68
SIEMENS	64
SKYMASTER	69
VIDEOWAY	76
WISI	64

Preparation For Editing

Turn on the TV and select the VIDEO channel (or AV mode).



Advantages Of S-VHS Video Recorders

You can edit from VHS to S-VHS, S-VHS to VHS, or, from S-VHS to S-VHS.
- From VHS to S-VHS: Record VHS playback signals in the S-VHS mode. Although the picture quality is inherently limited by that of the original, the edited tape has better picture quality than those made by VHS-to-VHS editing.
- From S-VHS to VHS: Because the picture quality of the source material is very high, the edited tape has better picture quality than those made by VHS-to-VHS editing.
- From S-VHS to S-VHS: All signals will be transferred with minimum degradation.

Picture Control

This feature helps you to adjust the playback picture quality according to your preference. *The default setting is "AUTO."

1 ACCESS MAIN MENU SCREEN

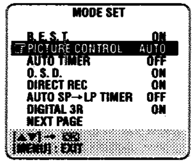
Press **MENU**.

2 ACCESS MODE SET SCREEN

Move the highlighted bar (pointer) to "MODE SET" by pressing △▽, then press **OK** or ▷.

3 SELECT PICTURE CONTROL SET MODE

Move the highlighted bar (pointer) to "PICTURE CONTROL" by pressing △▽, then press **OK** or ▷ to select the desired mode.



```
MODE SET

B.E.S.T.                ON
☞PICTURE CONTROL      AUTO
AUTO TIMER             OFF
O. S. D.                ON
DIRECT REC              ON
AUTO SP→LP TIMER       OFF
DIGITAL 3R              ON
NEXT PAGE
[▲▼] → [illegible]
MENU : EXIT
```

AUTO: Provides optimised picture benefits of B.E.S.T. Picture System. Normally select AUTO.
EDIT: Minimizes picture degradation during editing (recording and playback).
SOFT: Reduces image coarseness when viewing overplayed tapes containing a lot of noise.
SHARP: Clearer, sharper-edged picture when viewing images with lots of flat, same-coloured surfaces such as cartoons.

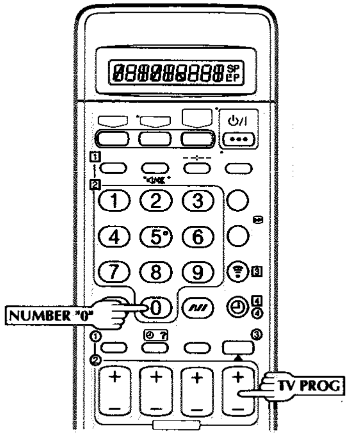
NOTES:
- *When you select EDIT, SOFT or SHARP, the selected mode will not change until you select again.*
- *When you select EDIT to dub tapes, be sure to select AUTO after you finish dubbing the tapes.*

4 RETURN TO NORMAL SCREEN

Press **MENU**.

NOTES:
- *When B.E.S.T. is OFF, "PICTURE CONTROL" switches automatically from AUTO to NORM.*
- *Select EDIT when you are dubbing tapes. Refer to page 42.*

Edit From A Camcorder


NUMBER "0"
TV PROG

NOTES:
- *All necessary cables can be obtained from your dealer.*
- *You can also use another video recorder as the player instead of a camcorder.*
- *When you select EDIT to dub tapes in step **3**, be sure to select AUTO (or NORM when B.E.S.T. is set to OFF) after you finish dubbing the tapes.*

You can use a camcorder as the source player and your video recorder as the recorder.

1 MAKE CONNECTIONS

A *If the camcorder has no S-VIDEO output connector...*
... connect the camcorder's AUDIO/VIDEO OUT connectors to the recorder's front panel AUDIO/ VIDEO input connectors.

B *If the camcorder has an S-VIDEO output connector...*
... connect the camcorder's S-VIDEO OUT and AUDIO OUT connectors to the recorder's front panel S-VIDEO and AUDIO input connectors.

- When using a monaural camcorder, connect its AUDIO OUT connector to the AUDIO L input connector on your recorder.
- When a Master Edit Control-equipped JVC camcorder is used, the camcorder is capable of controlling the recorder. Refer to the camcorder's instruction manual for operating procedure.

2 SET RECORDER'S INPUT MODE

Press **NUMBER** key "0" and/or **TV PROG** to select "F-1" for the AUDIO/VIDEO input connectors, or "S-1" for the AUDIO/S-VIDEO input connectors, depending on the connectors being used.

3 SET EDIT MODE

See "Picture Control" on page 39.

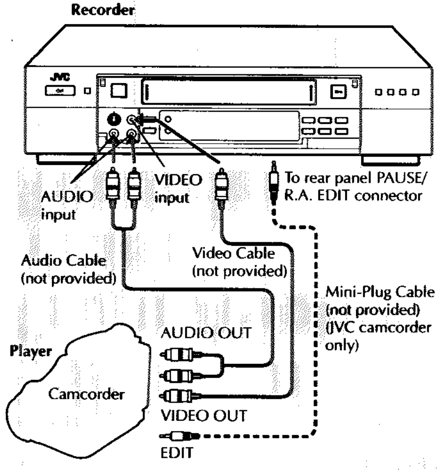
4 START CAMCORDER

Engage its Play mode.

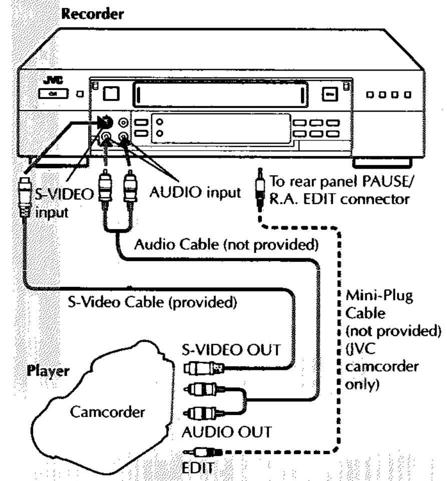
5 START RECORDER

Engage its Record mode.

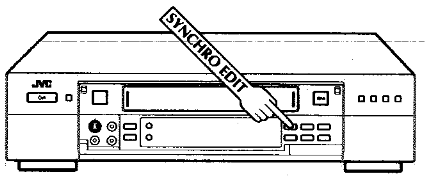
A **If the camcorder has no S-VIDEO output connector...**

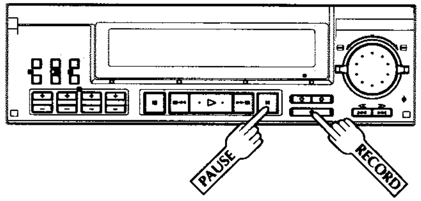

Recorder
AUDIO input
VIDEO input
To rear panel PAUSE/ R.A. EDIT connector
Audio Cable (not provided)
Video Cable (not provided)
Mini-Plug Cable (not provided) (JVC camcorder only)
Player
Camcorder
AUDIO OUT
VIDEO OUT
EDIT

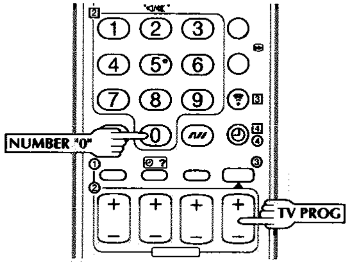
B **If the camcorder has an S-VIDEO output connector...**

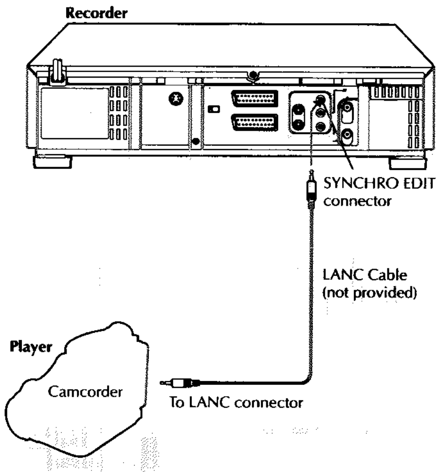

Recorder
S-VIDEO input
AUDIO input
To rear panel PAUSE/ R.A. EDIT connector
Audio Cable (not provided)
S-Video Cable (provided)
Mini-Plug Cable (not provided) (JVC camcorder only)
Player
Camcorder
S-VIDEO OUT
AUDIO OUT
EDIT

Synchro Editing


SYNCHRO EDIT


PAUSE
RECORD


NUMBER "0"
TV PROG


Recorder
SYNCHRO EDIT connector
LANC Cable (not provided)
Player
Camcorder
To LANC connector

The Synchro Editing function synchronizes the start of the playback and recording operations when starting an edit operation using a camcorder with LANC connector and your video recorder.

1 MAKE CONNECTIONS

Connect your recorder to camcorder (☞ pg. 40), and connect your recorder's SYNCHRO EDIT connector to the camcorder's LANC connector.

2 SET RECORDER'S INPUT MODE

Press **NUMBER** key "0" and/or **TV PROG** to select "F-1" for the AUDIO/VIDEO input connectors, or "S-1" for the AUDIO/S-VIDEO input connectors, depending on the connectors being used.

3 SET EDIT MODE

See "Picture Control" on page 39.

4 LOCATE START POINT

Start playback of the tape in the camcorder, and pause playback when you find the point where you want to start editing. Press and hold **PAUSE** and press **RECORD** on your recorder so that the recorder enters the Record-Pause Mode.

5 START SYNCHRO EDITING

Press **SYNCHRO EDIT**.

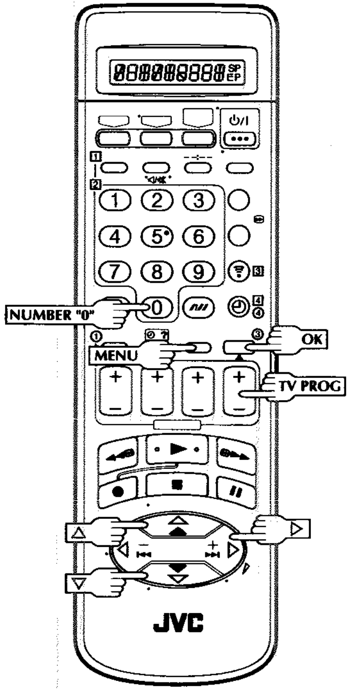
6 PAUSE SYNCHRO EDITING

Press **SYNCHRO EDIT** again.

- Repeat steps **4** – **6** as necessary.

NOTES:
- *The Synchro Editing function may not work with the initial part of a camcorder tape.*
- *The Synchro Editing function cannot be used when using the JLIP function. (Pressing **SYNCHRO EDIT** cancels the JLIP function.)*
- *The Synchro Editing function may not work properly with some type of camcorder.*
- *When you select EDIT to dub tapes in step **3**, be sure to select AUTO (or NORM when B.E.S.T. is set to OFF) after you finish dubbing the tapes.*

Edit To Or From Another Video Recorder


NUMBER "0"
MENU
OK
TV PROG
JVC

You can use your video recorder as the source player or as the recording deck.

1 MAKE CONNECTIONS

Connect the player's 21-pin SCART connector to the recorder's 21-pin SCART connector as illustrated on page 43.

A *When Using Your Video Recorder As The Source Player ...*
... connect its AV1 IN/OUT connector to the recording deck.

B *When Using Your Video Recorder As The Recording Deck ...*
... connect its AV2 IN/DECODER or AV1 IN/OUT connector to the source player.

C *If Another Recorder Is Compatible With The Y/C Signal ...*
... connect your recorder's AV1 IN/OUT connector to another recorder.

With C connection ...

- When using your recorder as the recording deck, set "AV1 SELECT" to "S-VIDEO" and "AV2 SELECT" to "AV2" (☞ pg. 44).
- When using your recorder as the source player, set the AV1 OUT switch on the rear panel to Y/C (☞ pg. 4).

2 SET RECORDING DECK'S INPUT MODE

Set to AUX. With this video recorder, press **NUMBER** key "0" and/or **TV PROG** to select "L-1" for the AV1 IN/OUT connector, or "L-2" for the AV2 IN/DECODER connector, depending on the connector being used.

- When using the AV2 IN/DECODER connector, make sure "AV2 SELECT" is set to "AV2" (☞ pg. 44).

3 SET EDIT MODE

See "Picture Control" on page 39.

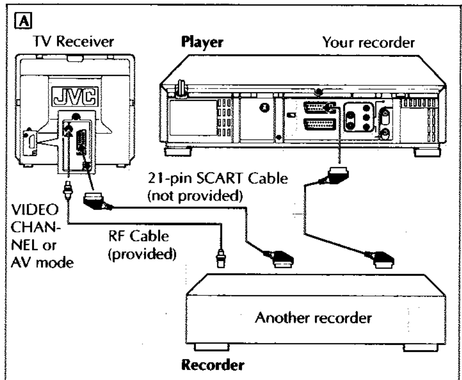
4 START SOURCE PLAYER

Engage its Play mode.

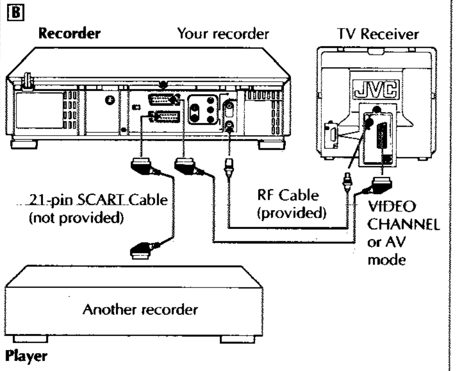
5 START RECORDING DECK

Engage its Record mode.

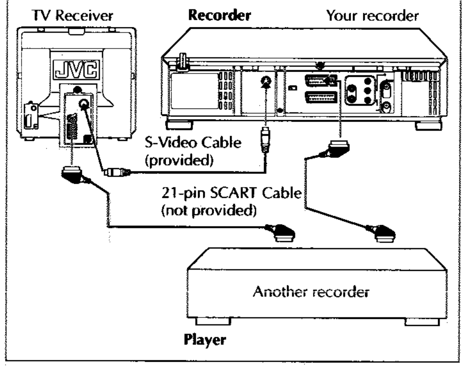
A


TV Receiver
Player
Your recorder
21-pin SCART Cable
(not provided)
VIDEO
CHAN-
NEL or
AV mode
RF Cable
(provided)
Another recorder
Recorder

B


Recorder
Your recorder
TV Receiver
21-pin SCART Cable
(not provided)
RF Cable
(provided)
VIDEO
CHANNEL
or AV
mode
Another recorder
Player

C


TV Receiver
Recorder
Your recorder
S-Video Cable
(provided)
21-pin SCART Cable
(not provided)
Another recorder
Player

NOTES:

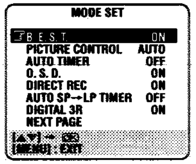
- *All necessary cables can be obtained from your dealer.*
- *For Y/C signal input/output, be sure to use a 21-pin SCART cable that is compatible with the Y/C signal.*
- *When you select EDIT to dub tapes in step 3, be sure to select AUTO (or NORM when B.E.S.T. is set to OFF) after you finish dubbing the tapes.*
- *When you use this recorder as the player for editing, be sure to set "O.S.D." to "OFF" before starting (☞ pg. 11).*
- *If you are using another recorder with S-Video and Audio input/output connectors, you can connect those connectors to this recorder's S-VIDEO and AUDIO input/output connectors.*
  When Using Your Video Recorder As The Source Player ...
  ... connect its rear panel S-VIDEO and AUDIO output connectors to the recording deck's S-Video and Audio input connectors.
  When Using Your Video Recorder As The Recording Deck ...
  ... connect its front panel S-VIDEO and AUDIO input connectors to the source player's S-Video and Audio output connectors. Then, set the recorder's input mode to "S-1".

AV1 SELECT Setting

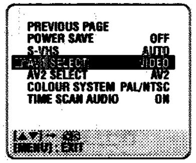
Set "AV1 SELECT" to the appropriate mode depending on the type of unit connected to the rear panel AV1 IN/OUT connector of this recorder.

1 Press **MENU** to access the Main Menu screen.
2 Press △▽ to move the highlight bar (pointer) to "MODE SET", then press **OK** or ▷.
3 Press △▽ to move the highlight bar (pointer) to "AV1 SELECT".
4 Press **OK** or ~~▷ to select "VIDEO" or "S-VIDEO".~~
a–VIDEO : If a connected device's output is compatible only with regular video signals, set "AV1 SELECT" to "VIDEO".
b–S-VIDEO : If a connected device's output is compatible with Y/C signals, set "AV1 SELECT" to "S-VIDEO". This setting will let you take advantage of higher-quality S-VHS pictures.
5 Press **MENU** to return to normal screen.

- If "AV2 SELECT" is set to "DECODER", it is impossible to set "AV1 SELECT" to "S-VIDEO".



MODE SET
☞B.E.S.T. ON
PICTURE CONTROL AUTO
AUTO TIMER OFF
O. S. D. ON
DIRECT REC ON
AUTO SP→LP TIMER OFF
DIGITAL 3R ON
NEXT PAGE
[▲▼] → OK
[MENU] : EXIT



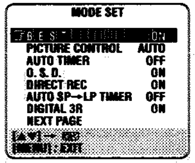
PREVIOUS PAGE
POWER SAVE OFF
S-VHS AUTO
☞AV1 SELECT VIDEO
AV2 SELECT AV2
COLOUR SYSTEM PAL/NTSC
TIME SCAN AUDIO ON
[▲▼] → OK
[MENU] : EXIT

AV2 SELECT Setting

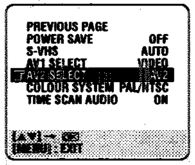
Set "AV2 SELECT" to the appropriate mode depending on the type of unit connected to the rear panel AV2 IN/DECODER connector of this recorder.

1 Press **MENU** to access the Main Menu screen.
2 Press △▽ to move the highlight bar (pointer) to "MODE SET", then press **OK** or ▷.
3 Press △▽ to move the highlight bar (pointer) to "AV2 SELECT".
4 Press **OK** or ▷ to select "AV2", "DECODER" or "SAT".
a–AV2 : To use this recorder as the recording deck with the player connected to the AV2 IN/DECODER connector, or to use the satellite tuner connected to the AV2 IN/DECODER connector.
b–DECODER : To use a decoder connected to the AV2 IN/DECODER connector.
c–SAT : To view a satellite programme with the TV set while the recorder is in Timer mode, in Stop mode, recording or turned off. (☞ pg. 51)
5 Press **MENU** to return to normal screen.

- If you have a decoder connected to the AV2 IN/DECODER connector, be sure to set "AV2 SELECT" back to "DECODER" after editing.
- If you're not connecting a decoder to the AV2 IN/DECODER connector, leave "AV2 SELECT" set to "AV2".
- The default setting is "AV2"; if the recorder's memory backup has expired due to a power cut or because the AC was removed from the recorder, "AV2" will be automatically selected when the power is restored to the recorder. If you are using a decoder, be sure to set "AV2 SELECT" back to "DECODER".
- If the AV1 OUT switch on the rear panel is set to Y/C, it is impossible to set "AV2 SELECT" to "DECODER".



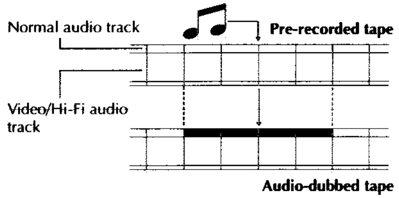
MODE SET
☞B.E.S.T. ON
PICTURE CONTROL AUTO
AUTO TIMER OFF
O. S. D. ON
DIRECT REC ON
AUTO SP→LP TIMER OFF
DIGITAL 3R ON
NEXT PAGE
[▲▼] → OK
[MENU] : EXIT

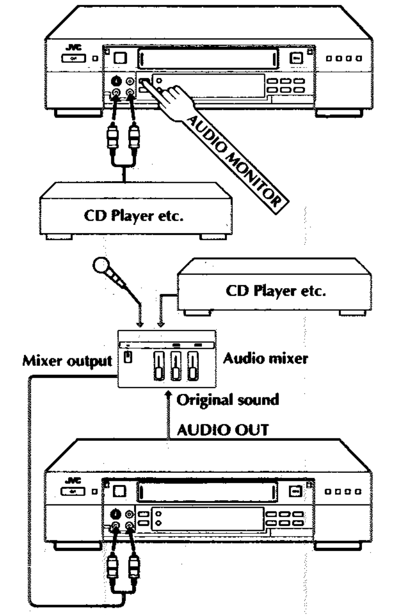


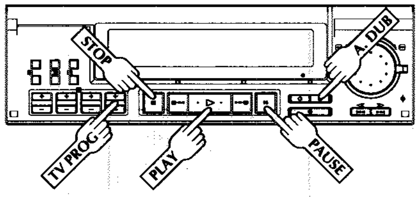
PREVIOUS PAGE
POWER SAVE OFF
S-VHS AUTO
AV1 SELECT VIDEO
☞AV2 SELECT AV2
COLOUR SYSTEM PAL/NTSC
TIME SCAN AUDIO ON
[▲▼] → OK
[MENU] : EXIT

Audio Dubbing

Audio dubbing replaces the normal audio sound of a previously recorded tape with a new soundtrack.







1 MAKE CONNECTIONS

Connect an audio component to the AUDIO L + R connectors on the recorder's front panel.

- When connecting monaural equipment, use only the recorder's AUDIO L connector.

2 SET INPUT MODE

Press **NUMBER** key "0" and/or **TV PROG** so that "F-1" or "S-1" appears in place of a channel number.

3 LOCATE START POINT

Press **PLAY** to start playback of the tape in your recorder, and press **PAUSE** when you find the point where you want to start dubbing.

4 ENGAGE AUDIO DUBBING

Press **A. DUB**.

- Your recorder enters the Audio Dubbing Pause mode. ("○" blinks, "▷" and "▥" light up on the front display panel.)
- To perform audio dubbing with audio mixing, press **AUDIO MONITOR** (or **AUDIO** on the remote control) to select "▷ + ◁ (L+R)" at this point.
  - * Audio dubbing with audio mixing is not possible if you're using a monaural audio component, or if you don't have an audio mixer.

5 START DUBBING

Engage the audio component's Play mode, then press **PLAY** to start the tape in your recorder. Audio dubbing begins at this point.

- "○" blinks and "▷" is displayed on the front display panel.
- To stop dubbing temporarily, press **PAUSE**. Press **PLAY** to resume dubbing.

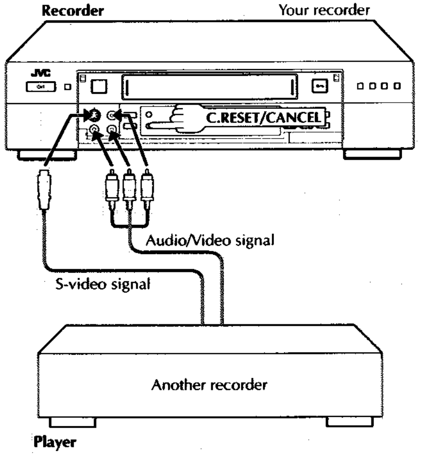
6 END AUDIO DUBBING

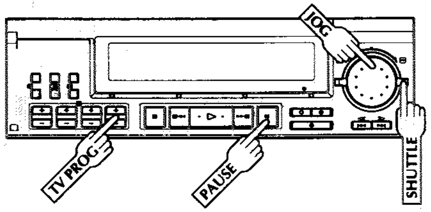
Press **STOP** to stop the tape in your recorder, and engage the audio component's Stop mode.

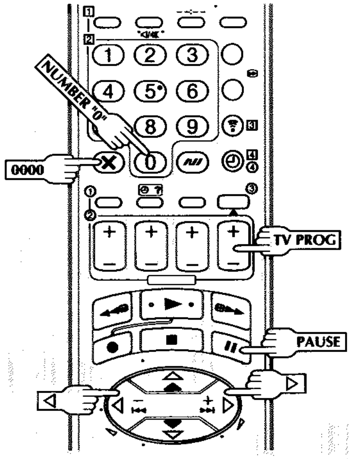
NOTES:

- *When monitoring the sound during Audio Dubbing, the normal soundtrack is automatically selected. If you wish to hear the mixed sound (Hi-Fi + Normal soundtracks), press* ***AUDIO MONITOR*** *(or* ***AUDIO*** *on the remote control) to select "▷ + ◁ (L+R)+NORM" (☞ pg. 19).*
- *Audio dubbing stops automatically when the counter reaches "0:00:00", and the recorder enters the Play mode. Check the counter reading before dubbing.*
- *Audio dubbing is also possible using the rear panel AV1 IN/OUT or AV2 IN/DECODER connector. When using these connectors, make sure to select the correct input mode in step* ***2****.*
- *Audio dubbing cannot be performed on a cassette that has had its record safety tab removed.*
- *When playing back an audio-dubbed tape, press* ***AUDIO MONITOR*** *(or* ***AUDIO*** *on the remote control) to select the soundtrack you wish to hear (☞ pg. 19).*

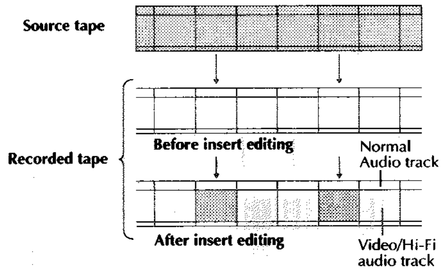
Insert Editing







Insert editing replaces part of the recorded scene with new material. Both the picture and Hi-Fi audio soundtrack are replaced with new ones, while the normal audio soundtrack remains unchanged. If you wish to change the normal audio track as well, use the audio dubbing function simultaneously. Use your video recorder as the recorder.



1 MAKE CONNECTIONS

Connect the player's VIDEO OUT or S-VIDEO OUT and AUDIO OUT connectors to your recorder's VIDEO or S-VIDEO and AUDIO input connectors on the front panel.

2 SET INPUT MODE

Press **NUMBER** key "0" and/or **TV PROG** so that "F-1" for the VIDEO/AUDIO input connectors or "S-1" for S-VIDEO/AUDIO input connectors appears in place of a channel number.

3 LOCATE END POINT

Load the recording cassette into your recorder, and play it back to determine the edit-out point (the end of the segment to be replaced) using the **SHUTTLE** ring or the **JOG** dial or pressing ◁▷ and **PAUSE**.

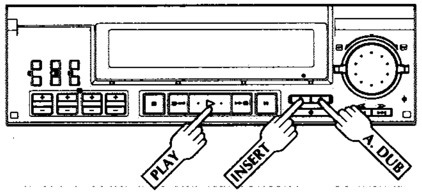
4 RESET THE COUNTER

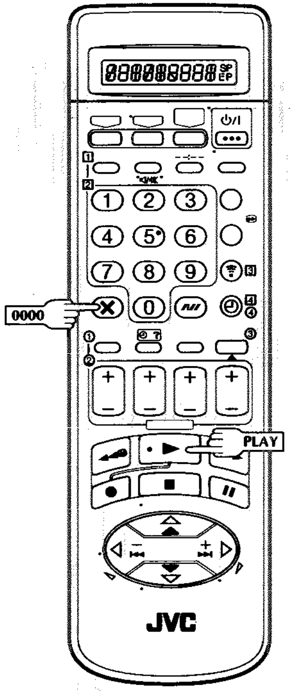
Press **0000** (or **C.RESET/CANCEL**) to change the counter display to "0:00:00".

5 LOCATE START POINT

Determine the edit-in point (the beginning of the segment to be replaced) using the **SHUTTLE** ring or the **JOG** dial or pressing ◁▷ and **PAUSE**.

- Be sure to engage the Still mode at the edit-in point.





6 ENGAGE INSERT EDITING

Press **INSERT**.

- Your recorder enters the Insert-Pause mode. ("○", "▷" and "⊞" light up on the front display panel.)
- The TV screen changes from the still picture to the input source you are going to record.

7 START EDITING

Load the source cassette and play back the segment that is to be inserted. When you reach the start of the section of the source tape that you wish to insert, press **PLAY** to start the tape in your recorder; Insert Editing begins at this point.

- "○" and "▷" are displayed on the front display panel.

8 END INSERT EDITING

At counter "0:00:00", Insert Editing will stop automatically while the tape continues running in the Play mode. If you wish to stop Insert Editing before the specified edit-out point, press **0000** (or **C.RESET/CANCEL**).

FOR AV INSERT EDITING

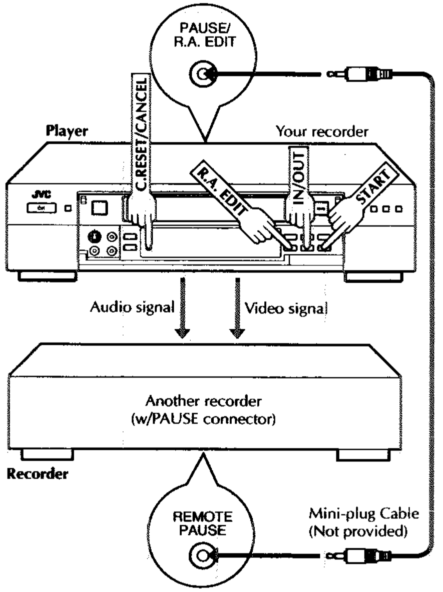
If you want to replace the picture, Hi-Fi audio soundtrack and normal audio soundtrack all at the same time...

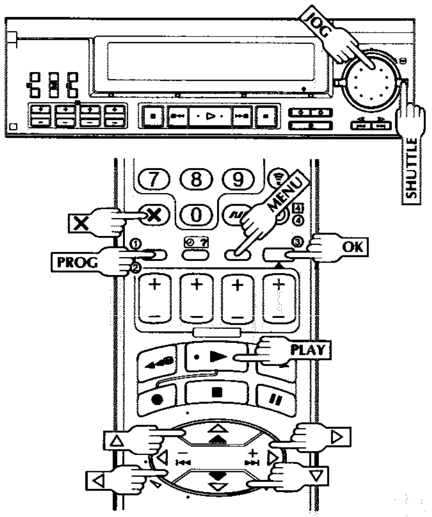
... In step **6** above, after you press **INSERT**, press **A. DUB** also. ("○" and "▷" blink and "⊞" lights up on the front display panel.)

NOTES:

- *Suitable leads can be obtained from your dealer.*
- *Insert editing is not possible with cassettes whose safety tab has been removed.*
- *When insert editing is performed on a tape that has been recorded on another video recorder, the inserted portion may appear distorted.*
- *In insert editing, the recording speed (SP/LP) is determined by the previous recording to be replaced. If the previous recording's speed changes within a single edit, the inserted picture will be distorted at the switching point.*
- *A small portion of the recording which precedes an insert edit may become erased.*
- *Insert Editing is also possible using the rear panel AV1 IN/OUT or AV2 IN/DECODER connector. When using these connectors, make sure to select the correct input mode in step 2.*

Random Assemble Editing





This function makes it easier to create edited videos when your video recorder is used as the source player in combination with another JVC video recorder equipped with a Remote PAUSE Connector. You can pre-program up to 8 scenes or "cuts" for automatic editing in the sequence you have specified.

You can also perform Random Assemble Editing with a second non-JVC recorder. (☞ pg. 49)

1 MAKE CONNECTIONS

Connect your recorder's AV1 IN/OUT or S-VIDEO OUT/AUDIO OUT connectors to the video and audio input connectors on the recording deck, and connect your recorder's PAUSE/R.A. EDIT connector to the PAUSE connector on the recording deck.

- If the recording deck doesn't have a PAUSE connector, connect to the R.A. EDIT connector instead.
- The Mini-plug cable is a mono 3.5 mm mini-plug to mono 3.5 mm mini-plug connector.

2 PREPARE FOR EDITING

Insert the cassette to be recorded on into the recorder and set the recorder's input mode.

3 LOAD SOURCE CASSETTE

Insert the source cassette into your recorder.

4 SET EDIT MODE

See "Picture Control" on page 39.

5 START SOURCE PLAYBACK

Press **PLAY**.

6 ACCESS R.A. EDIT SCREEN

Press **R.A. EDIT**.

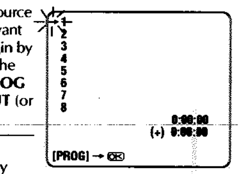
OR

Press **MENU** to access MAIN MENU screen and press △▽ to move the highlight bar (pointer) to "R.A. EDIT", then press **OK**.

- The screen is superimposed on the video playback in step 7.

7 LOCATE EDIT-IN POINT

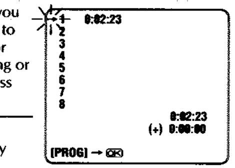
Find the point on the source tape from where you want the edited scene to begin by pressing ◁▷ or using the **SHUTTLE** ring or the **JOG** dial, then press **IN/OUT** (or **PROG**).

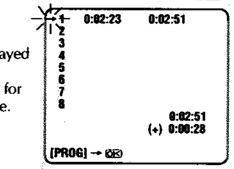


- The edit-in point is registered in memory and appears on the screen.

8 LOCATE EDIT-OUT POINT

Find the point where you want the edited scene to end by pressing ◁▷ or using the **SHUTTLE** ring or the **JOG** dial, then press **IN/OUT** (or **PROG**).





- The edit-out point is registered in memory and appears on the screen.
- The total time of the edited scenes is displayed to the right of "(+)".
- Repeat steps 7 and **8** for each additional scene.

9 PREPARE RECORDING DECK

Engage its Record-Standby mode.

10 START R.A. EDIT

Press **START** (or **OK**).

- Automatic editing begins; all the specified scenes are copied to the recording deck in the order they were registered.
- The on-screen display remains while your recorder searches for each scene (blinking cursor indicates scene currently being searched for), but disappears during actual editing.
- During scene search, the recording deck automatically enters its Record-Standby mode.
- When all registered scenes have been edited, your recorder enters the Pause mode, the recording deck enters its Record-Standby mode, and the cursor blinks at the next available number.

11 END R.A. EDIT

Press **MENU** to return to the normal screen, and engage the Stop mode for your recorder and for the recording deck.

NOTES:

- *You can also monitor the sound when searching for scenes you want to edit in steps 7 – **8**. Since you can hear the soundtrack during selection, you can avoid abrupt or unnatural sounding scene-to-scene transitions. The sound that is heard, however, is not TimeScan Audio.*
- *When editing, there may be a discrepancy of about 2 seconds on the source tape between the locations you chose as edit-in/-out points and the locations your recorder recognizes as those points.*
- *For any scene, the edit-out point must have a counter reading that is at least 1 second after the corresponding edit-in point. Any less than 1 second and the edit-out point will not be registered.*
- *Since the source recorder prerolls during Random Assemble Editing, there must be at least 15 seconds worth of recorded material prior to any edit-in point on the source tape.*
- *If the search time for an edit-in point exceeds 5 minutes, the recording deck enters its Stop mode and editing will not take place.*
- *During steps 7 and **8** — if you engage the Pause mode while registering edit-in and -out points in the R.A. Edit screen, the characters in the on-screen display may become distorted. This is normal.*

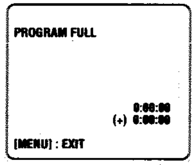
To Make Corrections . . .

. . . during step 7 or **8**, you can cancel registered in and out points by pressing X (or **C.RESET/CANCEL**). Each time you press, the preceding point is erased.

- If, for example, you have registered 5 sets of in and out points and want to reset the first set, you have to press X (or **C.RESET/CANCEL**) until all points after the first set have been erased. Reenter them after you've repaired the first set of points.

Memory Capacity

Random Assemble Editing shares memory space with the recorder's timer. If there are programs occupied by timer-recording data, those spaces cannot be used to register edit-in and -out points — meaning you won't be able to edit 8 scenes.



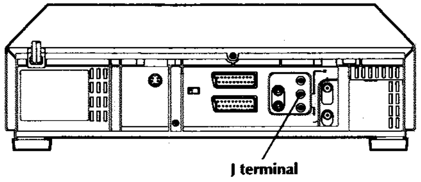
- When all 8 programs are full, "PROGRAM FULL" appears on the R.A. EDIT screen.
- To cancel a program, see page 32.

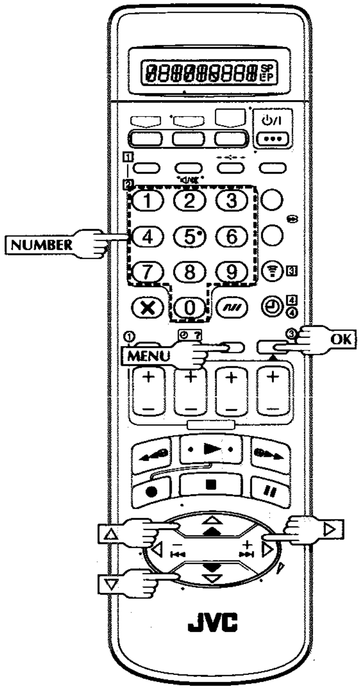
RM-V704U Multi-Brand R.A. Edit Controller (Not provided)

By connecting this controller to your recorder's R.A. EDIT connector, you can perform Random Assemble Editing in combination with a second non-JVC video recorder. The controller is compatible with various major recorder brands. For compatible systems and availability, please consult your JVC dealer.

NOTE:

Although the RM-V704U is designed to operate the recording deck, it may not work with some recorders, or may have limited function capability.





J Terminal (JLIP(Joint Level Interface Protocol) Connector)

The J Terminal is used to connect the recorder to a personal computer or similar device to allow computerized control of the recorder during editing and certain other operations.

Examples:

With the optional JLIP VIDEO CAPTURE BOX GV-CB3E:

- Enables Random Assemble Editing of up to 99 segments, using this recorder as the playback unit.
- Allows you to capture still images from the recorder into a personal computer.

For further details consult your nearest JVC dealer.

JLIP ID Number

Your recorder has its own JLIP ID number. This ID number must be unique when your recorder is connected to another device via its J terminal. The ID Number is preset to "1" at the factory. You can change this number to any number between "1" and "99". If it is necessary to change the JLIP ID number perform the following steps.

1 ACCESS MAIN MENU SCREEN

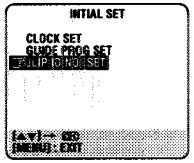
Press **MENU**.

2 ACCESS INITIAL SET SCREEN

Press △▽ to move the highlight bar (pointer) to "INITIAL SET", then press **OK** or ▷.

3 ACCESS JLIP ID NO. SET SCREEN

Press △▽ and move the highlight bar (pointer) to "JLIP ID NO. SET", then press **OK** or ▷.



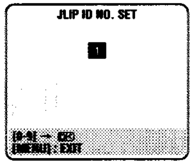
INTIAL SET

CLOCK SET
GUIDE PROG SET
☞JLIP ID NO. SET

[▲▼] → OK
[MENU] : EXIT

4 SET JLIP ID NUMBER

Press **NUMBER** keys to enter the desired ID number.



JLIP ID NO. SET

1

[0-9] → OK
[MENU] : EXIT

5 RETURN TO NORMAL SCREEN

Press **OK**.

Connection To A Satellite Tuner

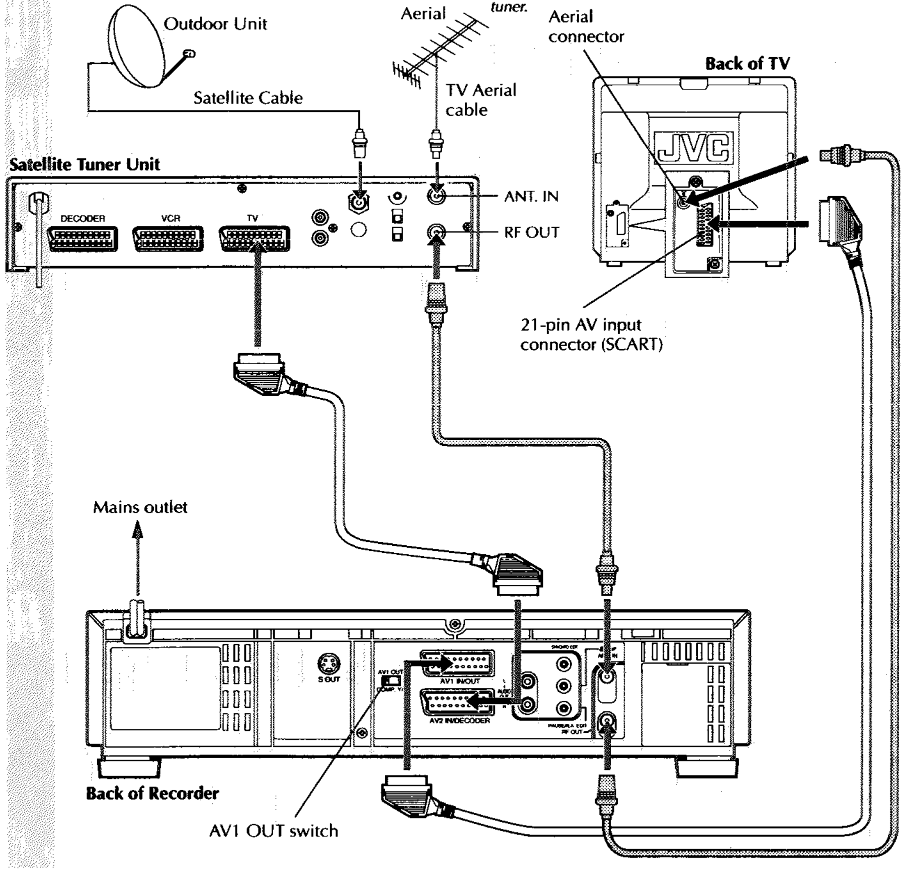
Simple Connections

This is an example of simple connection if you don't have a decoder.

Connect the satellite tuner to the video recorder's AV2 IN/DECODER connector, then connect the recorder's AV1 IN/OUT connector to the TV's 21-pin SCART connector.

NOTES:

- *Set "AV2 SELECT" to "AV2". (☞ pg. 44)*
- *You can use Automatic Satellite Program Recording function (☞ pg. 35) with this connection.*
- *To view a programme via the satellite tuner, select L-2 mode by pressing **NUMBER** keys and/or **TV PROG** so that "L-2" appears on the display panel.*
- *For details, refer to the instruction manual for the satellite tuner.*



IMPORTANT

When you set "AV2 SELECT" to "SAT" (☞ pg. 44), it is possible to view a satellite broadcast with the TV set to its AV mode even if the recorder is in Timer mode, in Stop mode, recording or turned off. When the recorder is in Stop mode or recording, press **TV/VCR** on the remote control to turn off the VCR indicator on the display panel.

- *In this case, be sure to set the **AV1 OUT** switch on the rear panel to COMP.*

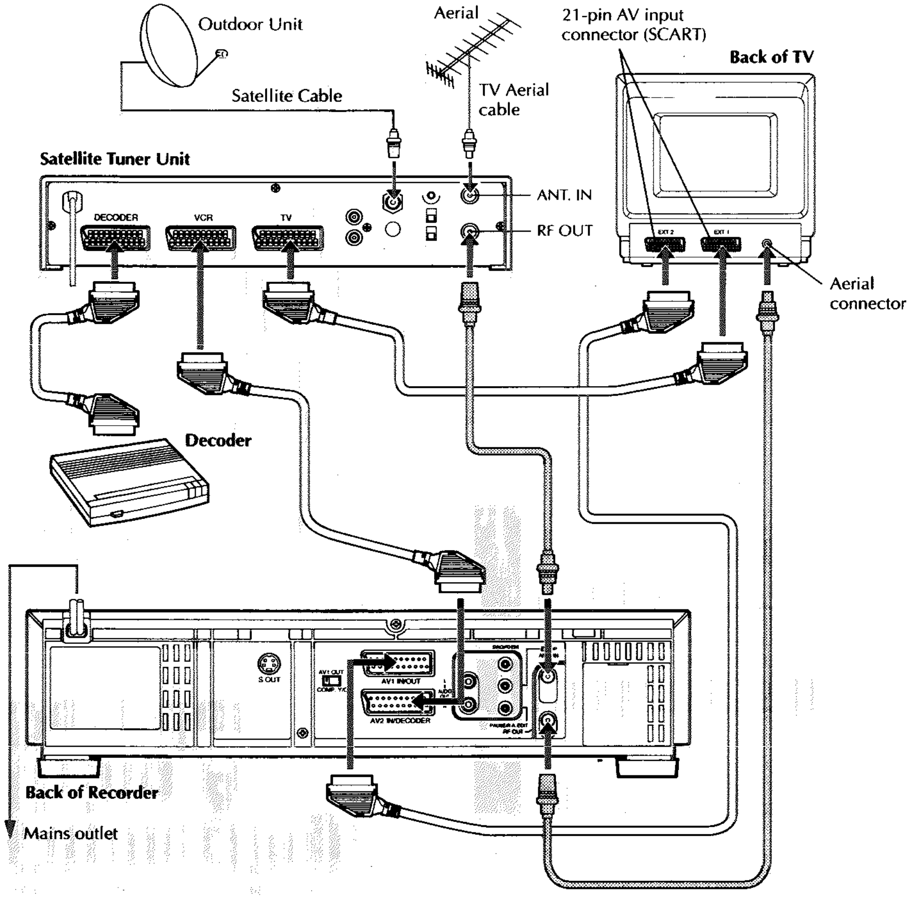
Perfect Connections

This is an example of recommended connection if you have both satellite tuner and decoder.

Connect the decoder to the satellite tuner's connector, AV1 IN/OUT connector to TV's connector, and AV2 IN/DECODER connector to the satellite tuner's connector. Then connect the satellite tuner and TV.

NOTES:

- *Set "AV2 SELECT" to "AV2". (☞ pg. 44)*
- *You can use Automatic Satellite Program Recording function (☞ pg. 35) with this connection.*
- *To view a programme via the satellite tuner, select L-2 mode by pressing **NUMBER** keys and/or **TV PROG** so that "L-2" appears on the display panel.*
- *To receive a scrambled broadcast, descramble the signal with the satellite tuner.*
- *For details, refer to the instruction manual for the satellite tuner and decoder.*


Outdoor Unit
Satellite Cable
Aerial
TV Aerial cable
21-pin AV input connector (SCART)
Back of TV
Satellite Tuner Unit
DECODER
VCR
TV
ANT. IN
RF OUT
EXT 2
EXT 1
Aerial connector
Decoder
S OUT
AV1 IN/OUT
AV2 IN/DECODER
Back of Recorder
Mains outlet

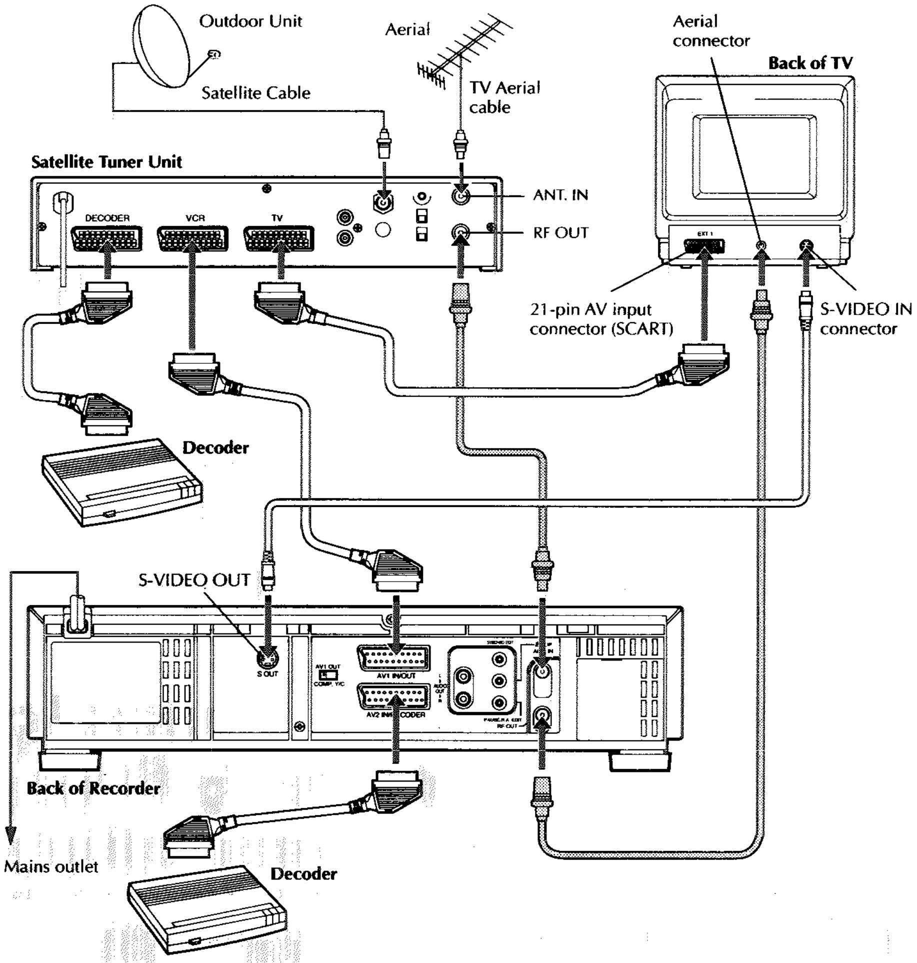
Basic Connections

This is an example of basic connection if you have both satellite tuner and decoder.

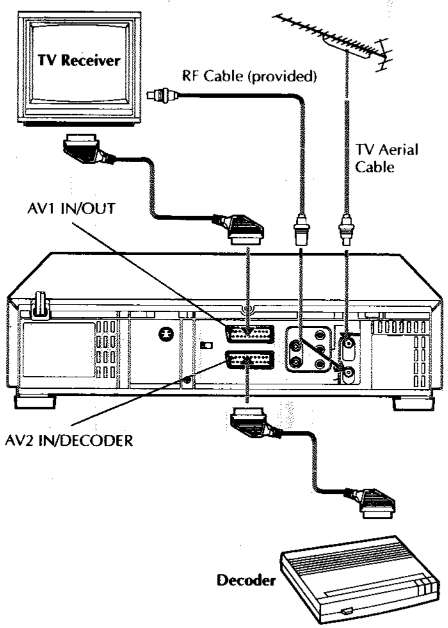
Connect the decoder to your recorder's AV2 IN/DECODER connector and AV1 IN/OUT connector to the satellite tuner's connector. Then connect the satellite tuner and TV. If you have a decoder for satellite broadcast, connect it to the satellite ~~tuner's connector~~.

NOTES:

- *To record a satellite programme which delivers the Y/C signal, set "AV2 SELECT" to "AV2" and "AV1 SELECT" to "S-VIDEO". You can obtain high-quality S-VHS picture.*
- *If you connect your recorder and TV via S-Video cable VC-S211 (not provided), you can enjoy high-quality S-VHS pictures.*
- *~~Set "AV2 SELECT" to "DECODER" to view a scrambled~~ broadcast. (☞ pg. 44)*
- *Automatic Satellite Program Recording function is not possible with this connection.*
- *To view a programme via the satellite tuner, select L-1 mode by pressing **NUMBER** keys and/or **TV PROG** so that "L-1" appears on the display panel.*
- *For details, refer to the instruction manual for the satellite tuner and decoder.*


Outdoor Unit
Satellite Cable
Aerial
TV Aerial cable
Aerial connector
Back of TV
Satellite Tuner Unit
DECODER
VCR
TV
ANT. IN
RF OUT
EXT 1
21-pin AV input connector (SCART)
S-VIDEO IN connector
Decoder
S-VIDEO OUT
S OUT
AV1 IN/OUT
Back of Recorder
Mains outlet
Decoder

Connecting/ Using A Decoder


TV Receiver
RF Cable (provided)
TV Aerial Cable
AV1 IN/OUT
AV2 IN/DECODER
Decoder

The AV2 IN/DECODER connector can be used as an input terminal for an external decoder (descrambler). Simply connect a decoder and you can enjoy the variety of programming that is available through scrambled channels.

1 SELECT INPUT MODE

Set "AV2 SELECT" to "DECODER". (☞ pg. 44)

2 CONNECT DECODER

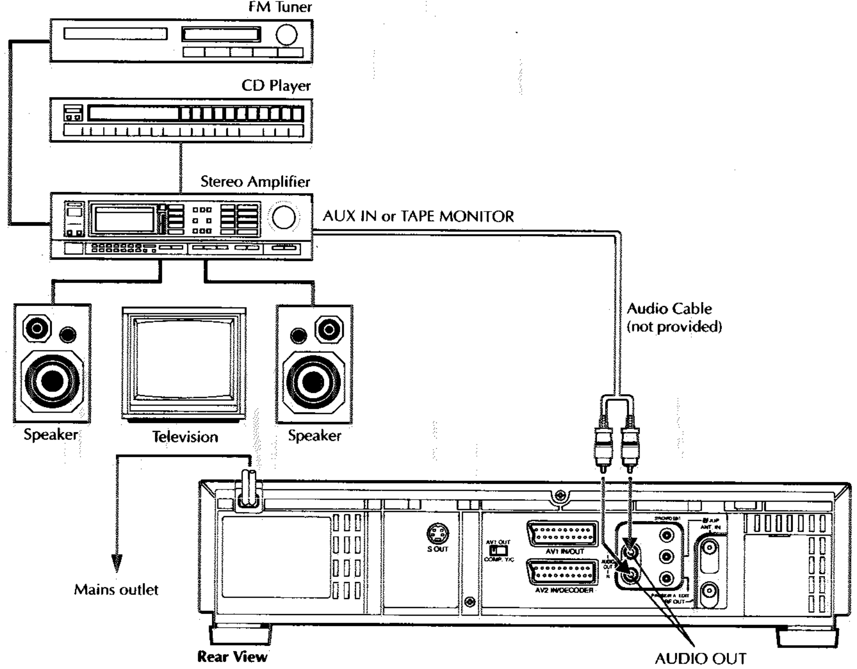
Connect your recorder's AV2 IN/DECODER connector to the decoder's Euroconnector using a 21-pin SCART cable.

3 SET TUNER

Perform the procedure as described in "When Receiving A Scrambled Broadcast" on page 59.

Connecting/ Using A Stereo System

These instructions enable you to connect your video recorder to your Hi-Fi stereo system (if you have one) and listen to the soundtrack through the stereo.


FM Tuner
CD Player
Stereo Amplifier
AUX IN or TAPE MONITOR
Audio Cable
(not provided)
Speaker
Television
Speaker
Mains outlet
Rear View
AUDIO OUT

1 MAKE CONNECTIONS

Connect the AUDIO OUT L and R connectors on your video recorder to the AUX IN or TAPE MONITOR terminals on your stereo system's receiver or amplifier.

NOTES:

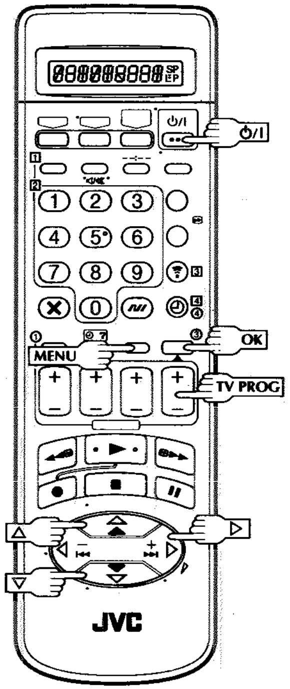
- *When connecting your recorder's audio output connectors to a stereo amplifier, make sure you connect L and R correctly.*
- *If stereo or bilingual TV broadcasts are receivable in your area, this recorder can record them independently of the TV set and play them back through the connected stereo system.*
- *When listening to sound through the connected stereo system, turn the TV's volume down completely.*

CAUTIONS:

- This recorder has a dynamic range of more than 80 dB with regards to its Hi-Fi audio capability. It is recommended that you check the maximum level if you are going to listen to the Hi-Fi audio signals through a stereo amplifier. A sudden surge in the input level to the speakers may damage them.
- Some speakers and televisions are specially shielded to prevent television interference. If both are of the non-shielded type, do not place the speakers adjacent to the TV set as this can adversely affect the video playback picture.

Tuner Set

Turn on the TV and select the VIDEO channel (or AV mode).



IMPORTANT

Perform the following steps only if —
— Auto Channel Set has not been set correctly by Auto Set Up function or by Preset Download (☞ pg. 6, 8).
— you have moved to a different area or if a new station starts broadcasting in your area.

Your recorder needs to memorize all necessary stations in channel positions in order to record TV programmes. Auto Channel Set automatically assigns all receivable stations in your area to call them up by using the **TV PROG** buttons without going through any vacant channel.

Auto Channel Set

1 TURN ON THE RECORDER

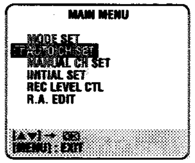
Press ⏻/I.

2 ACCESS MAIN MENU SCREEN

Press **MENU**.

3 ACCESS AUTO CH SET SCREEN

Press △▽ to move the highlight bar (pointer) to "AUTO CH SET", then press **OK** or ▷.



MAIN MENU

MODE SET
AUTO CH SET
MANUAL CH SET
INITIAL SET
REC LEVEL CTL
R.A. EDIT

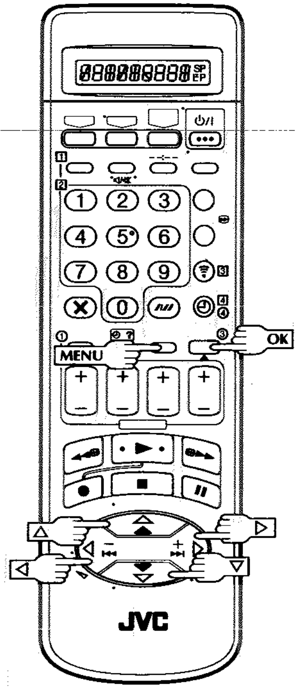
[▲▼] → OK
[MENU] : EXIT

4 SELECT COUNTRY

Press △▽ to move the highlight bar (pointer) to your country's name, then press **OK** or ▷.

5 SELECT LANGUAGE

Press △▽ to move the highlight bar (pointer) to the language of your choice.



IMPORTANT

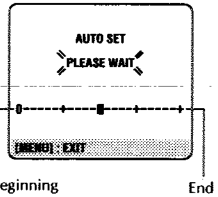
- In certain reception conditions, station names may not be stored correctly, and auto Guide Program Number Set may not work properly. **If the Guide Program numbers are not set properly, when you timer-record a TV programme using** SHOWVIEW, the recorder will record a TV programme of a different station. When programming the timer using SHOWVIEW, be sure to check whether the channel position on which your recorder receives the broadcasting station you wish to record is selected (☞ pg. 28, "SHOWVIEW Timer Programming").
- Your video recorder memorizes all detected stations even if reception of some of them is poor. In these cases picture quality may be poor. To delete those stations with an unacceptable picture ☞ "Delete A Channel" on page 59.

NOTES:

- *Fine tuning is performed automatically during Auto Channel Set. If you want to perform it manually, refer to page 62.*
- *If you perform Auto Channel Set when the aerial cable is not connected properly, "SCAN COMPLETED -NO SIGNAL-" appears on the screen in step 7. When this happens, make sure of the aerial connection and press **OK**; Auto Channel Set will take place again.*

6 PERFORM AUTO CHANNEL SET

Press **OK** twice.



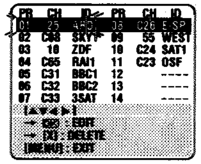
AUTO SET
PLEASE WAIT
[MENU] : EXIT

- You can set up the recorder's tuner also by Preset Download (☞ pg. 8).
- The Auto Set screen appears, and remains on screen while the recorder searches for receivable stations.

As Auto Channel Set progresses, the "■" mark on the screen moves from left to right.
Wait until the screen as shown in step 7 appears.

7 VIEW CONFIRMATION SCREEN

After "SCAN COMPLETED" is displayed on the screen for about 5 seconds, the Confirmation screen looking like the one to the right appears. The stations your recorder located appear on a Confirmation screen — channel positions (PR), channels (CH) and station names (ID – ☞ pg. 61). The blueback screen and the programme currently being broadcast by the blinking station appear alternately for 8 seconds each.
To view the next page, use the △▽ ◁▷ button on the remote control.



PR	CH	ID	PR	CH	ID
01	25	ARD	08	C26	E-SP
02	C08	SKY1	09	55	WEST
03	10	ZDF	10	C24	SAT1
04	C65	RAI1	11	C23	OSF
05	C31	BBC1	12		----
06	C32	BBC2	13		----
07	C33	3SAT	14		----

[▲▼◀▶]
→ OK : EDIT
→ [X] : DELETE
[MENU] : EXIT

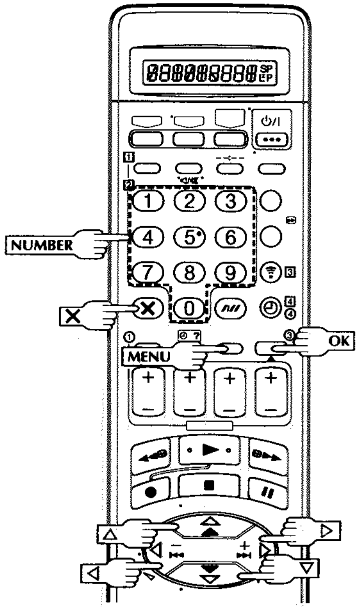
C: Cable

- The stations located in the selected country appear at the top of the list.
- The Guide Program numbers will also be set automatically during Auto Channel Set.

8 RETURN TO NORMAL SCREEN

Press **MENU**.

- Using the Confirmation screen, you can skip or add channel positions, enter station names and perform other operations. Refer to pages 58 – 62 for the procedures.
- Depending on reception conditions, the stations may not be stored in order, and the station names may not be stored correctly.
- For information on scrambled broadcasts, refer to page 59.



Storing Channels Manually

Store channels that were not stored during Auto Set Up (☞ pg. 6), Preset Download (☞ pg. 8) or Auto Channel Set (☞ pg. 56).

1 ACCESS MAIN MENU

Press **MENU**.

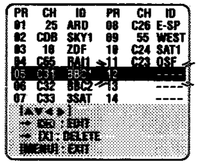
2 ACCESS CONFIRMATION SCREEN

Press △▽ to move the highlight bar (pointer) to "MANUAL CH SET", then press **OK** or ▷. The Confirmation screen appears.

3 SELECT POSITION

Press △▽ ◁▷ until an open position in which you want to store a channel begins blinking, then press **OK**. The Manual Channel Set screen appears.

(Ex.) To store in position 12.

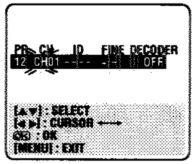


```
PR  CH  ID    PR  CH  ID
01  25  ARD   08  C26 E-SP
02  C08 SKY1  09   55 WEST
03  10  ZDF   10  C24 SAT1
04  C55 RAI1  11  C23 OSF
05  C31 BBC1  12      ----
06  C32 BBC2  13      ----
07  C33 3SAT  14      ----
[▲▼◀▶]
→ OK : EDIT
→ [X] : DELETE
[MENU] : EXIT
```

The blueback screen and the programme currently being broadcast by the selected channel appear alternately for 8 seconds each.

4 SELECT BAND

Press △▽ to change the band between CH (regular) and CC (cable), then press ▷.



```
PR CH   ID   FINE DECODER
12 CH01 ----        OFF
[▲▼] : SELECT
[◀▶] : CURSOR ⟷
OK : OK
[MENU] : EXIT
```

The blueback screen and the programme currently being broadcast by the selected channel appear alternately for 8 seconds each.

5 INPUT CHANNEL

Press the **NUMBER** keys to input the channel number you want to store.

- Input "0" before any single number entries.
- To input the registered station name (ID – ☞ pg. 61), press ▷ until "----" (ID setting) begins blinking, then press △▽.
- For fine tuning adjustment, press ▷ until "+/–" begins blinking, then press △▽. While tuning, "+" or "–" appears.
- When storing a channel that sends scrambled broadcasts, press ▷ until "OFF" (Decoder setting) blinks, then press △▽ to set "DECODER" to "ON" ("OFF" is the default setting).
- When "AV2 SELECT" is set to "AV2", the "DECODER" setting cannot be changed (☞ pg. 44).

6 ENTER NEW CHANNEL INFORMATION

Press **OK** and the Confirmation screen appears.

- Repeat steps **3** through **6** as necessary.

7 CLOSE CONFIRMATION SCREEN

Press **MENU**.

- To change positions, see "Change Station Channel Position" (☞ pg. 59).
- If you wish to set station names other than the ones registered in your recorder, ☞ "Set Stations (B)" on page 60.

ATTENTION

Guide Program numbers are not set when channels are stored manually. If an attempt is made at timer programming with ShowView in this state, the "GUIDE PROG SET" screen appears; set the Guide Program numbers on this screen. ☞ "ATTENTION – Regarding Guide Program Number Set" on pg. 29.
Or perform "Guide Program Number Set" (☞ pg. 66).

Delete A Channel

Perform steps **1** and **2** of "Storing Channels Manually" on page 58 to access the Confirmation screen before continuing.

1 SELECT ITEM

Press △▽ ◁▷ until the item you want to delete begins blinking.

2 DELETE CHANNEL

Press X.

- The item directly beneath the cancelled one moves up one line.
- Repeat steps **1** and **2** as necessary.

3 CLOSE CONFIRMATION SCREEN

Press **MENU**.

Change Station Channel Position

Perform steps **1** and **2** of "Storing Channels Manually" on page 58 to access the Confirmation screen before continuing.

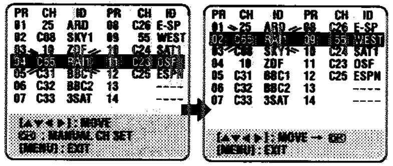
1 SELECT ITEM

Press △▽ ◁▷ until the item you want to move begins blinking. Then press **OK** and the station name (ID) and its channel (CH) number begin blinking.

2 SELECT NEW POSITION

Press △▽ ◁▷ to move the station to the new channel position, then press **OK**.

Example: If you moved the station in position 4 to position 2, the stations originally in positions 2 and 3 each move down one space.



```
PR  CH  ID    PR  CH  ID
01  25  ARD   08  C26 E-SP
02  C08 SKY1  09   55 WEST
03  10  ZDF   10  C24 SAT1
04  C55 RAI1  11  C23 OSF
05  C31 BBC1  12  C25 ESPN
06  C32 BBC2  13      ----
07  C33 3SAT  14      ----
[▲▼◀▶] : MOVE
OK : MANUAL CH SET
[MENU] : EXIT
```

```
PR  CH  ID    PR  CH  ID
01  25  ARD   08  C26 E-SP
02  C55 RAI1  09   55 WEST
03  C08 SKY1  10  C24 SAT1
04  10  ZDF   11  C23 OSF
05  C31 BBC1  12  C25 ESPN
06  C32 BBC2  13      ----
07  C33 3SAT  14      ----
[▲▼◀▶] : MOVE → OK
[MENU] : EXIT
```

- Repeat steps **1** and **2** as necessary.

3 CLOSE CONFIRMATION SCREEN

Press **MENU**.

NOTE:

The characters available for the station name (ID) are A–Z, 0–9, –, ✱, +, ␣ (space) (maximum of 4).

When Receiving A Scrambled Broadcast

1 SELECT DECODER MODE

Set "AV2 SELECT" to "DECODER" (☞ pg. 44).

2 ACCESS CONFIRMATION SCREEN

Perform steps **1** and **2** of "Storing Channel Manually" on page 58.

3 SELECT POSITION

Press △▽ ◁▷ to select the channel position broadcasting scrambled programmes, then press **OK** twice.

4 CHANGE DECODER SETTING

Press ▷ until "OFF" (decoder setting) begins blinking, and set it to "ON" by pressing △▽.

5 RETURN TO CONFIRMATION SCREEN

Press **OK**.

- Repeat steps **3** through **5** as necessary.

6 CLOSE CONFIRMATION SCREEN

Press **MENU**.

ATTENTION

If channel positions are changed or deleted, the Guide Program numbers that have been set are reset.

- Example 1: If a channel is deleted, all the Guide Program numbers are reset.
- Example 2: If a channel is changed from position 4 to position 2, the Guide Program numbers above position 4 are reset.
- Example 3: If a channel is changed from position 4 to position 6, the Guide Program numbers above position 6 are reset.

* In Examples 2 and 3, if the channel is moved to position 10 before **OK** is pressed, the Guide Program numbers above position 10 are reset.
If an attempt is made at timer programming with ShowView in this state, the "GUIDE PROG SET" screen appears; set the Guide Program numbers on this screen. ☞ "ATTENTION – Regarding Guide Program Number Set" on pg. 29.
Or perform "Guide Program Number Set" (☞ pg. 66).

Set Stations (A)

Set station names that are registered in your recorder.

Perform steps **1** and **2** of "Storing Channels Manually" on page 58 to access the Confirmation screen before continuing.

1

SELECT ITEM

Press △▽ ◁▷ until the item you want begins blinking.

2

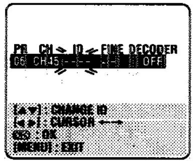
ACCESS MANUAL CHANNEL SET SCREEN

Press **OK** twice.

3

SELECT NEW STATION

Press ▷ until the station name (ID) begins blinking, then press △▽ until the new station's name (ID) you want to store begins blinking.
Registered station names (☞ pg. 61) appear as you press △▽.



4

SWITCH STATIONS

Press **OK**.

- The Confirmation screen appears.
- Repeat steps **1** through **4** as necessary.

5

CLOSE CONFIRMATION SCREEN

Press **MENU**.

Set Stations (B)

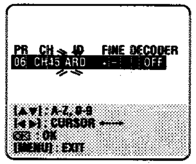
Set station names other than the ones registered in your recorder.

Perform steps **1** and **2** of "Storing Channels Manually" on page 58 to access the Confirmation screen and then perform step **1** and **2** of "Set Stations (A)" on the left before continuing.

1

SELECT STATION NAME CHARACTER

Press ▷ until the first letter of the station name begins blinking.



2

ENTER NEW CHARACTER

Press △▽ to cycle through the characters (A–Z, 0–9, –, ∗, +, ⎵ (space)) and stop when the desired character is indicated, then press ▷ to enter. Enter the remaining characters the same way (maximum of 4).
After entering all characters, press **OK**.

- The Confirmation screen appears.
- If you make a mistake, press ◁ until the incorrect character begins blinking. Then enter the correct character by pressing △▽.

3

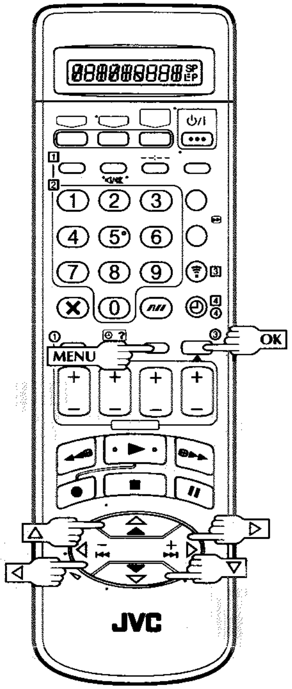
CLOSE CONFIRMATION SCREEN

Press **MENU**.

TV Station And ID List

ID*	STATION NAME
1000	TV1000
3SAT	3SAT
ADLT	ADULT
ANT3	ANTENA3
ARD	ARD
ARTE	ARTE
BBC	BBC GROUP
BBC1	BBC1
BBC2	BBC2
BR3	BAYERN3
C+	CANAL PLUS
C1	PORTUGUSES
CAN5	CANALE5
CANV	KETNET CANVAS
CH4	CHANNEL4
CH5	CHANNEL5
CHLD	CHILD
CINE	CINEMA
CLUB	TELECLUB
CMT	CMT
CNN	CNN
CSUR	ANDALUCIA
DISC	DISCOVERY
DR	DR TV
DRS	DRS
DSF	DSF
ETB1	ETB1
ETB2	ETB2
EURO	EURONEWS
EUSP	EUROSPORTS
FEMM	FEMMAN
FILM	FILM
FNET	FILMNET
FR2	France2
FR3	France3
GALA	GALAVISION
HR3	HESSEN3
INFO	INFO-KANAL
ITA1	ITALIA1
ITA7	ITALIA7
ITV	ITV
JSTV	JSTV
KA2	KA2
KAB1	KABEL1
KAN2	KANAL2
LOCA	LOCAL
M6	M6
MBC	MBR
MCM	MCM
MDR	MDR
MOVE	MOVIE
MTV	MTV
MTV3	MTV3
N3	NORD3
N-TV	N-TV
NBC	NBC SUPER
NDR3	NDR3
NED1	NED1
NED2	NED2
NED3	NED3
NEWS	
NICK	NICKELODEON
NRK	NRK
NRK2	NRK2
ODE	ODEON
ORF1	ORF1
ORF2	ORF2
ORF3	ORF3
OWL3	OWL3
PREM	PREMIERE
PRO7	PRO7
RAI1	RAI1
RAI2	RAI2
RAI3	RAI3
RET4	RETE4
21	TELE21
RTBF	RTBF1 or 2
RTL	RTL
RTL2	RTL2
RTL4	RTL4
RTL5	RTL5
RTP	RTP
S4	SCHWEIZ4
SAT1	SAT1
SBS	SBS
SHOW	SHOW
SIC	SOCIEDADE
SKY	SKY CHANNEL
SKYN	SKY NEWS
SPRT	SPORT
SRTL	SUPER RTL
STAR	STAR-TV
SVT1	SVT1
SVT2	SVT2
SWR	SUEDWEST3
TCC	TCC
TELE	TELE
TEL5	TELE5
TF1	TF1
TM3	TM3
TMC	TELEMONTECARLO
TNT	TNT INT
TRT	TRT INT
TSI	TSI
TSR	TSR
TV1	BRTN TV1
TV2	TV2
TV3	TV3
TV4	TV4
TV5	TV5
TV6	TV6
TVE1	TVE1
TVE2	TVE2
TVG	TV GALICIA
TVI	TV INDEPENDENT
TVN	TV NORGE
VCR	VIDEO
VERO	VERONICA
VH-1	VH-1
VIVA	VIVA
VIV2	VIVA2
VMTV	VIDEO MUSIC
VOX	VOX
VT4	VT4
VTM	VTM
WDR1	West1
WDR3	West3
YLE1	YLE1
YLE2	YLE2
ZDF	ZDF
ZTV	ZTV

* The "ID" abbreviation is what is shown on-screen in lieu of the station name. The "ID" abbreviation is listed in the Confirmation screen and is displayed on the TV screen when the recorder is tuned to a different station.



Fine-Tuning Channels Already Stored

Perform steps **1** and **2** of "Storing Channels Manually" on page 58 to access the Confirmation screen before continuing.

1 SELECT CHANNEL TO FINE-TUNE

Press △▽ ◁▷ until the channel you want to tune begins blinking.

2 ACCESS MANUAL CHANNEL SET SCREEN

Press **OK** twice. The Manual Channel Set screen appears.

3 PERFORM TUNING

Press ▷ until "+/–" begins blinking, then press △▽ until the picture is its clearest. Then press **OK**.

- The Confirmation screen appears.
- Repeat steps **1** through **3** as necessary.

4 CLOSE CONFIRMATION SCREEN

Press **MENU**.

Video Channel Set

Video Channel (RF Output Channel) is the channel on which your TV receives picture and sound signals from the video recorder through the RF cable.

IMPORTANT

Perform the following steps only if —
— interference appears in the TV picture after you have moved to a different area or a new station has started broadcasting in your area.
— you change the connection between your recorder and TV from RF connection to AV or S-VIDEO connection, or vice versa.

If you have connected the video recorder to your TV via both the provided RF cable and a 21-pin SCART cable (AV connection), or via the provided RF cable, the provided S-Video cable and an audio cable (S-VIDEO connection), since you do not need the video channel you have to set the video channel to off.

If you have connected the video recorder to your TV via the RF cable only (RF connection), you have to set the correct video channel.

Before performing the following steps, make sure the recorder's power is off and there is no cassette inserted in the recorder.

1 ACCESS VIDEO CHANNEL SET MODE

Hold down **STOP (■/⏏)** on the recorder until the display panel shows the following.

1OUT 36

2 SET RF OUTPUT SYSTEM

The blinking number on the display indicates the RF output system of your country. If you have selected MAGYARORSZAG (36), CESKA REPUBLIKA (42), POLSKA (48) or OTHER EASTERN EUROPE (EE) for the country setting (pg. 6, 10), press △▽ to set to "2". For other countries, set to "1". Then press **OK**.
(1: B/G 2: D/K)

2OUT 36

3 SET VIDEO CHANNEL

With AV Connection or S-VIDEO Connection

Press **TV PROG** – until the display panel shows "1OUT– –" (or "2OUT– –").

1OUT- -

- Now the video channel is set to off.

With RF Connection

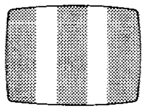
Press **TV PROG** + or – to set the video recorder to a vacant channel between 22 and 69 which is not occupied by any local station in your area.

(Ex.) If channel 50 is available in your area

1OUT 50

Then set your TV to UHF channel 50.

- If the two vertical white bars appear clearly on the screen as shown to the right, go to step **4**.
- If the two vertical white bars do not appear clearly, re-set the video recorder to another vacant channel and try again.



NOTES:

- *If you set the video recorder to a channel which is occupied by a local station or has neighbouring channels that are occupied by local stations, the picture reception quality will be affected and some interference noise will appear on the TV screen. Be sure to select a vacant channel which has no broadcast on neighbouring channels.*
- *If you cannot obtain the two vertical white bars clearly with any channel between 22 and 69, consult your JVC dealer.*

4 EXIT VIDEO CHANNEL SET MODE

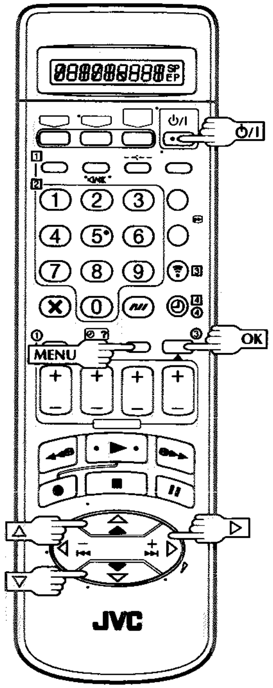
Press **OK** on the remote control.

With AV Connection or S-VIDEO Connection:
To view picture signals from the video recorder, set your TV to its AV mode.

With RF Connection:
The channel on which the screen in step 3 appears clearly is your video channel.
To view picture signals from the video recorder, set your TV to the Video Channel.

Clock Set

Turn on the TV and select the VIDEO channel (or AV mode).



Just Clock
The Just Clock function provides accurate time keeping through automatic adjustments at regular intervals, by reading data from a PDC signal.
The Just Clock option can be set "ON" or "OFF" at the Clock Set screen (the default setting is "OFF"). Press **OK** until the Just Clock setting begins blinking, then press △▽ to change the setting.

IMPORTANT: If you turn off Just Clock, the accuracy of your recorder's built-in clock may be reduced, which could adversely effect timer recording. We recommend you to keep Just Clock on. In cases where the clock setting data from a PDC signal is incorrect, however, you are advised to keep Just Clock set to "OFF".

IMPORTANT

If you performed Auto Set Up (☞ pg. 6), Preset Download (☞ pg. 8) or Auto Channel Set (☞ pg. 56), without ever having set the clock previously, the recorder's built-in clock is also set automatically.
Perform the following steps only if —
— Auto Clock Set has not been performed correctly by Auto Set Up, Preset Download or Auto Channel Set.
or
— the recorder's memory backup has expired.
or
— you want to change Just Clock setting (☞ "Just Clock" in the left column).

1 TURN THE RECORDER ON

Press ⏻/I.

2 ACCESS MAIN MENU SCREEN

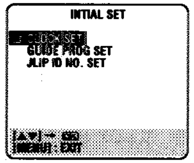
Press **MENU**.

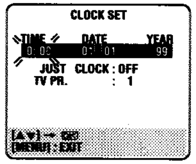
3 ACCESS INITIAL SET SCREEN

Move the highlight bar (pointer) to "INITIAL SET" by pressing △▽, then press **OK** or ▷.

4 ACCESS CLOCK SET SCREEN

Move the highlight bar (pointer) to "CLOCK SET" by pressing △▽, then press **OK** or ▷. The Clock Set screen appears.


INTIAL SET
CLOCK SET
GUIDE PROG SET
JLIP ID NO. SET
[▲▼] → OK
[MENU] : EXIT

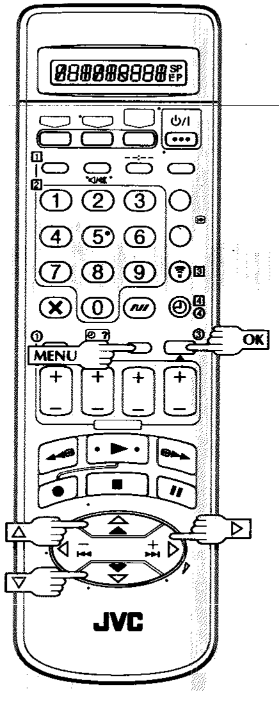

CLOCK SET
TIME DATE YEAR
0:00 01 01 99
JUST CLOCK : OFF
TV PR. : 1
[▲▼] → OK
[MENU] : EXIT

NOTE:
When you have selected MAGYARORSZAG (36), CESKA REPUBLIKA (42), POLSKA (48) or OTHER EASTERN EUROPE (EE) for the country setting (☞ pg. 6, 10), you cannot use Just Clock function. Skip steps **6** and **7** on page 65.

5 SET DATE AND TIME

Press △▽ to set the time, then press **OK** or ▷. The "date" display begins blinking. Repeat the same procedure to set the date and year.

- When you set the time, press and hold △▽ to change the time by 30 minutes.
- When you set the date, press and hold △▽ to change the date by 15 days.



6 SET JUST CLOCK

The default setting is "OFF". Set as desired by pressing △▽, then press **OK** or ▷.

- For the Just clock function, ☞ "Just Clock" on page 64.
- If you set to "OFF", you can disregard the next step as you won't be able to receive regular clock adjustments.

7 SET CLOCK DATA SOURCE CHANNEL POSITION

The recorder is preset to receive clock setting and adjustment data from channel position 1. Press △▽ to set the channel position to the number representing the station transmitting clock setting data, then press **OK** or ▷.

8 START CLOCK OPERATION

Press **MENU**.

NOTES:

- *Just Clock (when set to "ON") adjusts the recorder's built-in clock every hour, except for 23:00, 0:00, 1:00 and 2:00.*
- *Just Clock is not effective when . . .*
  - *– the recorder's power is on.*
  - *– the recorder is in the Timer mode.*
  - *– a difference of more than 3 minutes exists between the built-in clock's time and the actual time.*
  - *– the recorder is in the Auto Satellite Prog Rec mode (☞ pg. 35).*
  - *– the recorder is in the Power Save mode (☞ pg. 12).*
- *If Just Clock is set to "ON", the recorder's clock is automatically adjusted at the start/end of Summer Time.*
- *Just Clock may not function properly depending on the reception condition.*

SHOWVIEW Setup

IMPORTANT

Normally, Auto Set Up (☞ pg. 6), Preset Download (☞ pg. 8) or Auto Channel Set (☞ pg. 56) sets the Guide Program Numbers automatically. You need to set the Guide Program Numbers manually only in the following cases.

- *When timer-programming with SHOWVIEW, the channel position, where the station you wish to record is received on your recorder, is not selected or when you add a channel after Auto Set Up or Auto Channel Set has taken place.*

— Set the Guide Program Number for that station manually.

- *When you delete a channel or change channel positions manually after Auto Set Up or Auto Channel Set has taken place.*

— Set the Guide Program Numbers for all the receivable stations manually.

- *When you wish to timer-record a satellite programme with SHOWVIEW.*

— Set the Guide Program Numbers for all satellite broadcasts received on your satellite tuner.

Turn on the TV and select the VIDEO channel (or AV mode).

Guide Program Number Set

1 ACCESS MAIN MENU SCREEN

Press **MENU**.

2 ACCESS INITIAL SET SCREEN

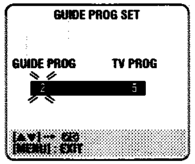
Press △▽ to move the highlight bar (pointer) to "INITIAL SET", then press **OK** or ▷.

3 ACCESS GUIDE PROG SET SCREEN

Press △▽ to move the highlight bar (pointer) to "GUIDE PROG SET", then press **OK** or ▷.

4 ENTER GUIDE PROG NUMBER

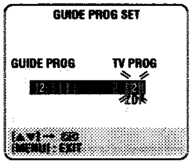
Press △▽ or **NUMBER** keys to enter the Guide Program number for the desired station as shown in the TV listings. Then press **OK** or ▷.



(Ex.) When inputting the Guide Program number 2 for ZDF.

5 ENTER RECEIVING CHANNEL POSITION NUMBER

Press △▽ or **NUMBER** keys to input the number of the recorder's channel position on which the Guide Program number's broadcast is received. Then press **OK** or ▷.



(Ex.) If ZDF is received on channel position 2.

- If the satellite broadcast is received on your recorder's auxiliary channel "L-2", select "L-2" for the channel position.
- Repeat steps **4** and **5** as necessary.

6 RETURN TO NORMAL SCREEN

Press **MENU**.

Guide Program Number

"Guide Program (GUIDE PROG) number" refers to the assigned TV station numbers, according to broadcast area, for SHOWVIEW timer recording. The Guide Program numbers can be found in most TV listings.

Before requesting service for a problem, use this chart and see if you can repair the trouble yourself. Small problems are often easily corrected, and this can save you the trouble of sending your video recorder off for repair.

POWER

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
1. No power is applied to the recorder.	• The mains power cord is disconnected.	Connect the mains power cord.
2. The clock is functioning properly, but the recorder cannot be powered.	• "⊕" is displayed on the display panel with Auto Timer set to "OFF".	Press the ⊕ button to turn the "⊕" indicator off.
3. The remote control won't function.	• The batteries are discharged.	Replace the dead batteries with new ones.

TAPE TRANSPORT

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
1. The tape does not run during recording.	• "▣" is displayed on the display panel.	Press **PLAY** to turn the "▣" indicator off.
2. The tape will not rewind or fast-forward.	• The tape is already fully rewound or fast-forwarded.	Check the cassette.

PLAYBACK

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
1. The playback picture does not appear while the tape is running.	• If you're using the RF OUT connection . . . . . . the TV receiver's channel selector is not set to the VIDEO channel. . . . the recorder's VIDEO channel has not been correctly set. • If you're using the AV or S-VIDEO connection, the TV receiver is not set to the AV mode.	If you are using the RF OUT connection . . . . . . set the TV receiver to the VIDEO channel. . . . perform "Video Channel Set". (☞ pg. 63) If you are using the AV or S-VIDEO connection, set the TV to its AV mode.
2. Noise appears during visual search.	• This is normal during visual search other than TimeScan.	
3. Noise appears during normal playback.	• The automatic tracking mode is engaged.	Try manual tracking. (☞ pg. 17)
4. The playback picture is blurred or interrupted while TV broadcasts are clear.	• The video heads may be dirty.	Consult your JVC dealer.
5. Breaks are noticeable in Hi-Fi soundtrack.	• Automatic tracking is engaged.	Engage and adjust tracking manually. (☞ pg. 17)

RECORDING

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
1. Recording cannot be started.	• There is no cassette loaded, or the cassette loaded has had its Record Safety tab removed.	Insert a cassette, or using adhesive tape, reseal the slot where the tab was removed.
2. TV broadcasts cannot be recorded.	• "L-1", "L-2", "F-1" or "S-1" has been selected as the input mode.	Set to the desired channel.
3. Tape-to-tape editing is not possible.	• The source (another video recorder, camcorder) has not been properly connected. • All necessary power switches have not been turned on. • The input mode is not correct.	Confirm that the source is properly connected. Confirm that all units' power switches are turned on. Set the input mode to "L-1", "L-2", "F-1" or "S-1".
4. Camcorder recording is not possible.	• The camcorder has not been properly connected. • The input mode is not correct.	Confirm that the camcorder is properly connected. Set the input mode to "L-1", "L-2", "F-1" or "S-1".

TIMER RECORDING

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
1. Timer recording won't work.	• The clock and/or the timer have been set incorrectly. • The timer is not engaged.	Re-perform the clock and/or timer settings. Press ⊕ and confirm that "⊕" is displayed on the display panel.
2. Timer programming is not possible.	• Timer recording is in progress.	Timer programming can't be performed while a timer recording is in progress. Wait until it finishes.
3. "⊕" and "[oo]" on the display panel won't stop blinking.	• The timer is engaged but there's no cassette loaded.	Load a cassette with the Record Safety tab intact, or cover the hole using adhesive tape.
4. The cassette is automatically ejected, and "⊕" and "[oo]" on the display panel won't stop blinking.	• The loaded cassette has had its Record Safety tab removed.	Remove the cassette and cover the hole with adhesive tape, or insert a cassette with the Record Safety tab intact.
5. "⊕" blinks for 10 seconds and the Timer mode is disengaged.	• ⊕ has been pressed when there are no programs in memory, or the timer record information has been programmed incorrectly.	Check the programmed data and re-program as necessary, then press ⊕ again.
6. The cassette is automatically ejected, the power shuts off and "⊕" and "[oo]" won't stop blinking. However, the cassette may not be ejected when the front panel is closed.	• The end of the tape was reached during timer recording.	The programme may not have been recorded in its entirety. Next time make sure you have enough time on the tape to record the entire programme. When the front panel is closed and the cassette cannot be ejected fully, push the cassette into the recorder, then press **STOP/EJECT** to remove the cassette.
7. ShowView does not timer-record properly.	• The recorder's channel positions have been set incorrectly.	Refer to "Guide Program Number Set" and re-perform the procedure (☞ pg. 66).

OTHER PROBLEMS

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
1. Whistling or howling is heard from the TV during camcorder recording.	• The camcorder's microphone is too close to the TV. • The TV's volume is too high.	Position the camcorder so its microphone is away from the TV. Turn the TV's volume down.
2. When scanning channels, some of them are skipped over.	• Those channels have been designated to be skipped.	If you need the skipped channels, restore them (☞ pg. 58).
3. The channel cannot be changed.	• Recording is in progress.	Press **PAUSE** to pause the recording, change channels, then press **PLAY** to resume recording.
4. Channel settings that were made manually seem to have changed or disappeared.	• After the manual settings were made, Auto Channel Set was performed.	Perform manual setting again.
5. No channels are stored in the recorder's memory.	• The TV aerial cable was not connected to the recorder when Auto Set Up was performed.	Connect the TV aerial cable to the recorder properly and turn off the recorder power once, then turn the recorder power back on again. The recorder will try Auto Set Up again (☞ pg. 6).
6. The remote control won't operate the TV or satellite tuner.	• The remote control brand setting is incorrect.	Re-set the remote control to the correct brand (☞ pg. 37, 38).

PLAYBACK

Q. What happens if the end of the tape is reached during playback or search?
A. The tape is automatically rewound to the beginning.

Q. Can the video recorder indefinitely remain in the still mode?
A. No. It stops automatically after 5 minutes to protect the heads.

Q. When returning from multi-speed search to normal playback, the picture is disturbed. Should I be concerned about this?
A. No, it is normal.

Q. Other than preventing further recording, what effect does removing the Record Safety tab have?
A. It disables marking of index codes.

Q. Sometimes, during Index Search, the video recorder can't find the programme I want to see. Why not?
A. There may be index codes too close together.

RECORDING

Q. When I pause and then resume a recording, the end of the recording before the pause is overlapped by the beginning of the continuation of recording. Why does this happen?
A. This is normal. It reduces distortion at the pause and resume points.

Q. Can the video recorder indefinitely remain in the Record-Pause mode?
A. No. The video recorder goes to its Stop mode automatically after 5 minutes to protect the heads.

Q. What happens if the tape runs out during recording?
A. The video recorder automatically rewinds it to the beginning.

TIMER RECORDING

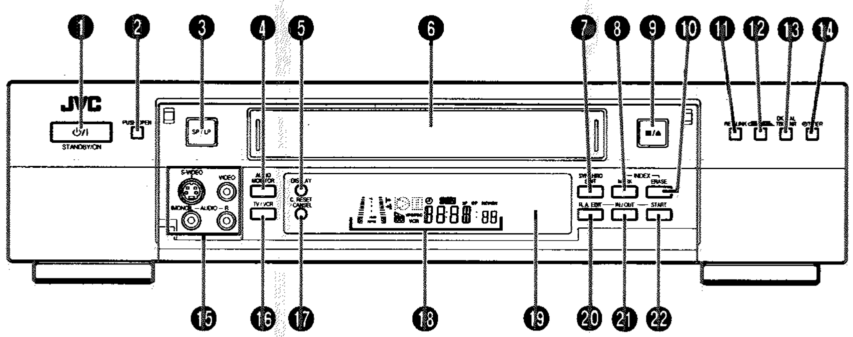
Q. "◌" and "⊕" remain lit on the display panel. Is there a problem?
A. No. This is a normal condition for a timer recording in progress.

Q. Can I programme the timer while I'm watching a tape or a TV broadcast?
A. You won't see the picture as it is replaced by the on-screen menu, but the audio from the programme or tape you're viewing can be heard.

Q. Is it possible to timer-record a TV programme broadcast in 2000?
A. Yes, it is possible.

ATTENTION
This recorder contains microcomputers. External electronic noise or interference could cause malfunctioning. In such cases, switch the recorder off and unplug the mains power cord. Then plug it in again and turn the recorder on. Take out the cassette. After checking the cassette, operate the unit as usual.

FRONT VIEW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JVC
STANDBY/ON
PUSH OPEN
SP/LP
S-VIDEO
VIDEO
AUDIO
AUDIO MONITOR
TV/VCR
DISPLAY
C.RESET/CANCEL
SYNCHRO EDIT
INDEX
ERASE
R.A. EDIT
IN/OUT
START
⑮
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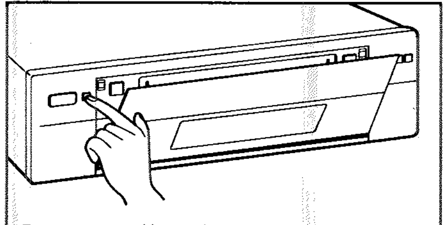
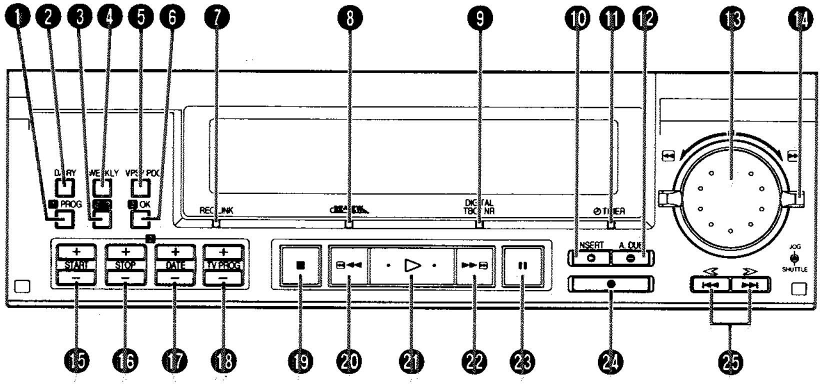
⑰
⑱
⑲
⑳
㉑
㉒

- ① STANDBY/ON ⏻/I Button ☞ pg. 6
- ② PUSH-OPEN Button
- ③ SP/LP Button ☞ pg. 22
- ④ AUDIO MONITOR Button ☞ pg. 19
- ⑤ DISPLAY Button ☞ pg. 23
- ⑥ Cassette Loading Slot
- ⑦ SYNCHRO EDIT Button ☞ pg. 41
- ⑧ INDEX MARK Button ☞ pg. 17
- ⑨ STOP/EJECT Button ☞ pg. 15
- ⑩ INDEX ERASE Button ☞ pg. 17
- ⑪ REC LINK Button ☞ pg. 35
- ⑫ REVIEW Button ☞ pg. 19
- ⑬ DIGITAL TBC/NR Button ☞ pg. 18
- ⑭ ⏲TIMER Button ☞ pg. 29, 31
- ⑮ S-VIDEO/VIDEO/AUDIO Input Connectors ☞ pg. 40, 46
- ⑯ TV/VCR Button ☞ pg. 23
- ⑰ Counter Reset [C.RESET] Button ☞ pg. 23, 46
  CANCEL Button ☞ pg. 32, 49
- ⑱ Display Panel ☞ pg. 72
- ⑲ Infrared Beam Receiving Window
- ⑳ Random Assemble Edit [R.A. EDIT] Button ☞ pg. 48
- ㉑ IN/OUT Button ☞ pg. 49
- ㉒ START Button ☞ pg. 49



To access covered buttons/connectors, press **PUSH-OPEN** so that the front panel opens.

INSIDE VIEW OF FRONT PANEL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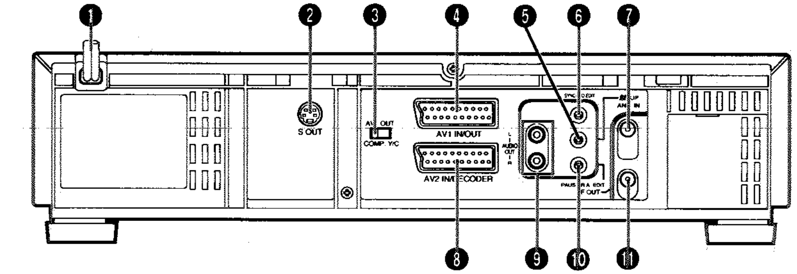
DAILY
WEEKLY
VPS/PDC
PROG
OK
REC LINK
DIGITAL TBC/NR
⏲TIMER
INSERT
A. DUB
START
STOP
DATE
TV PROG
JOG
SHUTTLE
⑮
⑯
⑰
⑱
⑲
⑳
㉑
㉒
㉓
㉔
㉕

- ① PROG Button ☞ pg. 28
- ② DAILY Button ☞ pg. 29, 31
- ③ ⏲ ? Button ☞ pg. 32
- ④ WEEKLY Button ☞ pg. 29, 31
- ⑤ VPS/PDC Button ☞ pg. 29, 31
- ⑥ OK Button ☞ pg. 7
- ⑦ REC LINK Indicator ☞ pg. 35
- ⑧ REVIEW Indicator ☞ pg. 19
- ⑨ DIGITAL TBC/NR Indicator ☞ pg. 18
- ⑩ INSERT Button ☞ pg. 46
- ⑪ ⏲TIMER Indicator ☞ pg. 29, 31
- ⑫ Audio Dubbing [A. DUB] Button ☞ pg. 45
- ⑬ JOG Dial ☞ pg. 16
- ⑭ SHUTTLE Ring ☞ pg. 15 – 17
- ⑮ START +/– Button ☞ pg. 30
- ⑯ STOP +/– Button ☞ pg. 30
- ⑰ DATE +/– Button ☞ pg. 30
- ⑱ TV PROG +/– Buttons ☞ pg. 22
- ⑲ STOP Button ☞ pg. 15
- ⑳ Rewind [REW] Button ☞ pg. 15 – 17
- ㉑ PLAY Button ☞ pg. 15
- ㉒ Fast Forward [FF] Button ☞ pg. 15 – 17
- ㉓ PAUSE Button ☞ pg. 16
- ㉔ RECORD Button ☞ pg. 22
- ㉕ << ⏮ and ⏭ >> Buttons — same as ◁ ▷ Button on remote control ☞ pg. 16, 17, 20

REAR VIEW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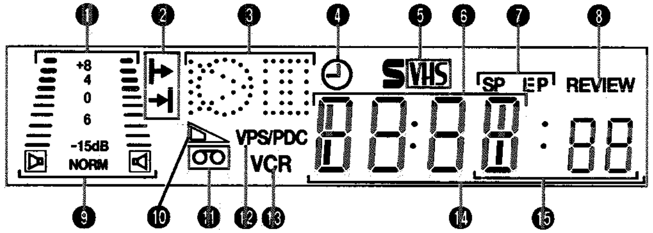
S OUT
AV1 OUT
COMP. Y/C
AV1 IN/OUT
AV2 IN/DECODER
AUDIO OUT

- ① Mains Power Cord ☞ pg. 4
- ② S-VIDEO OUT Connector ☞ pg. 5
- ③ AV1 OUT Switch ☞ pg. 4
- ④ AV1 IN/OUT Connector ☞ pg. 4, 41, 42, 48, 51 – 54
- ⑤ J terminal [JLIP (Joint Level Interface Protocol) Connector] ☞ pg. 50
- ⑥ SYNCHRO EDIT Connector ☞ pg. 41
- ⑦ ANT. IN Connector ☞ pg. 4
- ⑧ AV2 IN/DECODER Connector ☞ pg. 42, 51 – 54
- ⑨ AUDIO OUT (L/R) Connectors ☞ pg. 55
- ⑩ Remote PAUSE Connector ☞ pg. 40
  R.A. EDIT Connector ☞ pg. 48
- ⑪ RF OUT Connector ☞ pg. 4

DISPLAY PANEL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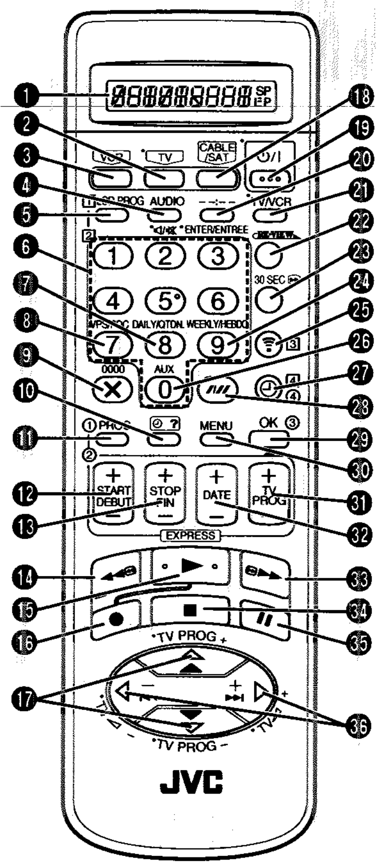
⑭
⑮
+8
4
0
6
-15dB
NORM
S-VHS
SP
EP
REVIEW
VPS/PDC
VCR

- ① B.E.S.T. Picture System Display ☞ pg. 26
  Audio Level Indicator ☞ pg. 25
- ② Programme Time Indicators ☞ pg. 30
- ③ Symbolic Mode Indicators

PLAY: FF/REW VARIABLE SEARCH:	▷	STILL: SLOW:	▷▥
		RECORD:	○
		RECORD PAUSE:	○▥
AUDIO DUBBING:			☼
AUDIO DUBBING PAUSE:			☼▥
INSERT:			◎
INSERT PAUSE:			◎▥
AUDIO DUBBING INSERT:			☼
AUDIO DUBBING INSERT PAUSE:			☼▥

- ④ "Timer" Indicator ☞ pg. 29, 31
- ⑤ S-VHS Indicator ☞ pg. 24
- ⑥ Channel/Clock Display ☞ pg. 9
- ⑦ Tape Speed Indicators ☞ pg. 22
  ** EP is only for NTSC playback*
- ⑧ Instant REVIEW Indicator ☞ pg. 19
- ⑨ Audio Mode Indicator ☞ pg. 19
- ⑩ Tape Remaining Time Indicator ☞ pg. 23
- ⑪ "Cassette Loaded" Mark
- ⑫ VPS/PDC Indicator ☞ pg. 29, 31
- ⑬ VCR Indicator ☞ pg. 23
- ⑭ Counter/Remain Display
- ⑮ Mode Display (L-1, L-2, F-1 or S-1)

REMOTE CONTROL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㊱
VCR
TV
CABLE /SAT
LCD PROG
AUDIO
TV/VCR
ENTER/ENTREE
REVIEW
30 SEC
DAILY/QTDN.
WEEKLY/HEBDO
VPS/PDC
0000
AUX
PROG
MENU
OK
START
DEBUT
STOP
FIN
DATE
TV PROG
EXPRESS
TV PROG +
TV PROG –
JVC

Buttons with a small dot on the left side of the name can also be used to operate your TV. (☞ pg. 37)

- ① LCD Panel ☞ pg. 28, 74
- ② TV Button ☞ pg. 37, 74
- ③ VCR Button ☞ pg. 36, 74
- ④ AUDIO Button ☞ pg. 19
  ◁/◁✕ (TV Muting) Button ☞ pg. 37
- ⑤ LCD PROG Button ☞ pg. 28
- ⑥ NUMBER Keys ☞ pg. 22, 28
- ⑦ DAILY Button ☞ pg. 29, 31
- ⑧ VPS/PDC Button ☞ pg. 29, 31
- ⑨ X Button ☞ pg. 28, 32, 49
  0000 Button ☞ pg. 23, 47
- ⑩ ⊕ ? Button ☞ pg. 32
- ⑪ PROG Button ☞ pg. 28
- ⑫ START +/– Button ☞ pg. 30
- ⑬ STOP +/– Button ☞ pg. 30
- ⑭ Rewind [REW] Button ☞ pg. 15, 17
- ⑮ Play Button ☞ pg. 15
- ⑯ Record Button ☞ pg. 22
- ⑰ △▽ Button ☞ pg. 6
  TV PROG +/– ☞ pg. 37
- ⑱ CABLE/SAT Button ☞ pg. 38, 74
- ⑲ STANDBY/ON ⏻/I Button ☞ pg. 6
- ⑳ – – : – – Button ☞ pg. 23
- ㉑ TV/VCR Button ☞ pg. 23, 37
- ㉒ REVIEW Button ☞ pg. 19
- ㉓ 30 SEC Button ☞ pg. 17
- ㉔ WEEKLY Button ☞ pg. 29, 31
- ㉕ ? Button ☞ pg. 28
- ㉖ AUX Button ☞ pg. 40
- ㉗ ⊕ Button ☞ pg. 29, 31
- ㉘ /// (Auto Tracking) Button ☞ pg. 17
  SP/LP Button ☞ pg. 22
- ㉙ OK Button ☞ pg. 7
- ㉚ MENU Button ☞ pg. 10
- ㉛ TV PROG +/– Button ☞ pg. 22
- ㉜ DATE +/– Button ☞ pg. 30
- ㉝ Fast Forward [FF] Button ☞ pg. 15, 17
- ㉞ Stop Button ☞ pg. 15, 22
- ㉟ Pause Button ☞ pg. 16
- ㊱ ◁▷ Button ☞ pg. 16, 20
  TV ◿ +/–Button ☞ pg. 37

How To Use

The remote control can operate most of your video recorder's functions, as well as basic functions of TV sets and satellite tuners of JVC and other brands. (☞ pg. 37, 38)

- Point the remote control toward the sensor window.
- The maximum operating distance of the remote control is about 8 m.

NOTES:

- *When inserting the batteries, be sure to insert in the correct directions as indicated under the battery cover.*
- *If the remote control doesn't work properly, remove its batteries, wait a short time, replace the batteries and then try again.*

Remote Control LCD

The remote control can operate not only the video recorder but also some of your TV and satellite tuner's functions. The LCD indicates which of these (VIDEO, TV or CABLE/SAT) the remote control can currently operate. When you first purchase the remote control, or after you have just replaced the batteries, VIDEO A (A code) is selected.

1 To operate your video recorder, first press the **VCR** button to set the remote control to the Video mode (☞ pg. 36).

2 To operate your TV, first press the **TV** button to set the remote control to the TV mode (☞ pg. 37).

3 To operate your satellite tuner, first press the **CABLE/SAT** button to set the remote control to the Satellite tuner mode (☞ pg. 38).

NOTES:

Even if "TV" is displayed on the LCD, the following operations can be performed without switching the mode.

- *Basic operations for the recorder*
  After an operation is completed, "TV" reappears on the LCD.
- *Express Timer Programming and ShowView Timer Programming operations*
  To perform a TV operation again, switch to TV mode first.
- *Accessing main menu*
  To perform a TV operation again, switch to TV mode first.

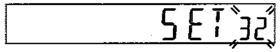
Auto Set Up – referring to the display panel

The Auto Set Up function sets the tuner channels, clock and Guide Program numbers automatically.

BEFORE YOU START PLEASE MAKE SURE THAT:

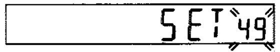
- ■ The TV aerial cable is connected to the ANT.IN jack on the rear panel of the video recorder.
- ■ The video recorder's mains power cord is connected to a mains outlet.
- ■ The video recorder is turned off.
- ■ Load batteries into the remote control.

1 Press ⏻/I (recorder/remote).



2 Press △▽ (remote) to select the international telephone country code.

(Ex.) DEUTSCHLAND is selected.



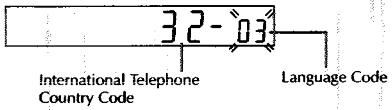
International Telephone Country Code

BELGIUM	: 32	NORGE	: 47
ČESKÁ REPUBLIKA	: 42	ÖSTERREICH	: 43
DANMARK	: 45	POLSKA	: 48
DEUTSCHLAND	: 49	PORTUGAL	: 351
ESPAÑA	: 34	SUISSE	: 41
GREECE	: 30	SUOMI	: 358
ITALIA	: 39	SVERIGE	: 46
MAGYARORSZÁG	: 36	OTHER WESTERN EUROPE	: - -
NEDERLAND	: 31	OTHER EASTERN EUROPE	: EE

- If you have selected a country code other than 32 (BELGIUM) or 41 (SUISSE), go to step 3.
- If you have selected 36 (MAGYARORSZAG), 42 (CESKA REPUBLIKA), 48 (POLSKA) or EE (OTHER EASTERN EUROPE), press **OK**. Clock Set screen will appear. Set the clock manually (☞ pg. 64 – 65), then go to step 3.

- If you have selected 32 (BELGIUM) or 41 (SUISSE), press **OK** (remote) and select the language code by pressing △▽ (remote), then go to step 3.

(Ex.) FRANCAIS is selected for BELGIUM

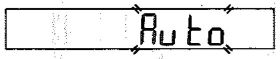


Language Code

ENGLISH	: 01	NEDERLANDS	: 06
DEUTSCH	: 02	SVENSKA	: 07
FRANCAIS	: 03	NORSK	: 08
ITALIANO	: 04	SUOMI	: 09
CASTELLANO	: 05	DANSK	: 10

3 Press **OK** (remote). "Auto" appears on the display panel.

4 Press **OK** (remote) to start Auto Set Up. Do NOT press any button on the video recorder or remote control during "Auto" is blinking.



- If "- -:- -" appears on the display panel, see page 9 of the instructions.

* *Once you have performed Auto Set Up, even if the recorder's memory backup has expired, the recorder will not perform Auto Set Up again. Perform tuner setting (☞ pg. 56) and/or clock setting (☞ pg. 64) as required.*

FOR MORE INFORMATION SEE INSTRUCTIONS/P6

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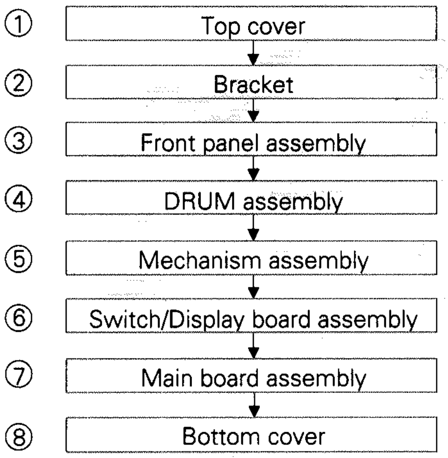
SECTION 1
DISASSEMBLY

1.1 DISASSEMBLY FLOW CHART

This flowchart lists the disassembling steps for the cabinet parts and P.C. boards in order to gain access to item(s) to be serviced. When reassembling, perform the step(s) in reverse order. Bend, route and dress the flat cables as they were originally laid.



1.2 HOW TO READ THE DISASSEMBLY AND ASSEMBLY

STEP /LOC NO.	PART NAME	FIG. NO.	POINT	NOTE
①	TOP COVER	D1	4(S1), (S2)	
②	BRACKET	D2	2(S3)	
③	FRONT PANEL ASSEMBLY [HR-S9600EU]	D3-1	9(L1), CN7002 (WR1)	<NOTE 1> <NOTE 2>
		D3-2	4(S4), SHAFT, HOLDER, DAMPER ASSY, MEMBRANE DOOR ASSY	
(1)	(2)	(3)	(4)	(5)

(1) Order of steps in Procedure
When reassembling, perform the step(s) in the reverse order. These numbers are also used as the identification (location) NO. of parts Figures.

(2) Part name to be removed or installed.

(3) Fig.No. showing procedure or part location

(4) Identification of part to be removed,unhooked,unlocked, released,unpluged,unclamped or unsoldered. P = Spring, W = Washer, S = Screw, L = Locking tab, CNxx(WRxx) = Remove the wire (WRxx) from the connector (CNxx).

NOTE: *The bracketed ( ) WR of the connector symbol are assigned nos. in priority order and do not correspond to those on the spare parts list.*

(5) Adjustment information for installation

1.3 DISASSEMBLY/ASSEMBLY METHOD

STEP /LOC NO.	PART NAME	FIG. NO.	POINT	NOTE
①	TOP COVER	D1	4(S1), (S2)	
②	BRACKET	D2	2(S3)	
③	FRONT PANEL ASSEMBLY [HR-S9600EU]	D3-1	9(L1), CN7002 (WR1)	<NOTE 1> <NOTE 2>
		D3-2	4(S4), SHAFT, HOLDER, DAMPER ASSY, MEMBRANE DOOR ASSY	
	FRONT PANEL ASSEMBLY [HR-S8600EU]	D3-3	9(L2), 2(L3), 2(S5), CN3012(WR2), CN7191(WR3), CN7192(WR4), JACK BOARD ASSY	
④	DRUM ASSEMBLY	D4	3(S6), 4(L4), (L5), (P1), CN1(WR5), CN1(WR6), INERTIA PLATE, ROLLER ARM ASSY	<NOTE 2>
⑤	MECHANISM ASSEMBLY	D5	2(S7),2(S8),2(L6), CN1(WR7)	<NOTE 2> <NOTE 3>
⑥	SWITCH/DISPLAY BOARD ASSEMBLY [HR-S9600EU]	D6-1	6(L7), (L8), CN7001(WR8), CN7191(WR9), CN7192(WR10), REC SAFETY BOARD ASSY	<NOTE 2> <NOTE 4>
	SWITCH/DISPLAY BOARD ASSEMBLY [HR-S8600EU]	D6-2	8(L9), (L10), CN7001(WR11), REC SAFETY BOARD ASSY	
⑦	MAIN BOARD ASSEMBLY	D7	2(S9), (S10), (S11)	
⑧	BOTTOM COVER [HR-S9600EU]	D8-1	2(S12), 4(L11), 7(L12), 4(L13) FOOT ASSY, FOOT (REAR)	
	BOTTOM COVER [HR-S8600EU]	D8-2	2(S13), 7(L14)	

<NOTE1>
- Before attaching the Front panel assembly, ensure that the door opener ⓐ is in the lower position.

<NOTE2>
- When inserting the flat wire into the connector, be careful not to make a mistake in the positioning of its electrodes.

<NOTE3>
- When it is required to remove the screws (S7) retaining the Mechanism assembly, please refer to the "Procedures for Lowering the Cassette holder assembly"(See on pages 1-4).
- When removing the Mechanism assembly only, unhook the two spacers connecting it with the Main board assembly with pliers from the back side of the Main board assembly first, and then remove the Mechanism assembly.
- When attaching the Mechanism assembly, be careful not to damage the sensors and switches on the Main board assembly. (D3001: LED, Q3002: Start sensor, Q3003: End sensor, S3002: S tape detect switch).

<NOTE4>
- The REC safety board assembly is attached to the Switch/ Display board assembly. It is therefore necessary to remove the REC safety board assembly before removing the Switch/Display board assembly.

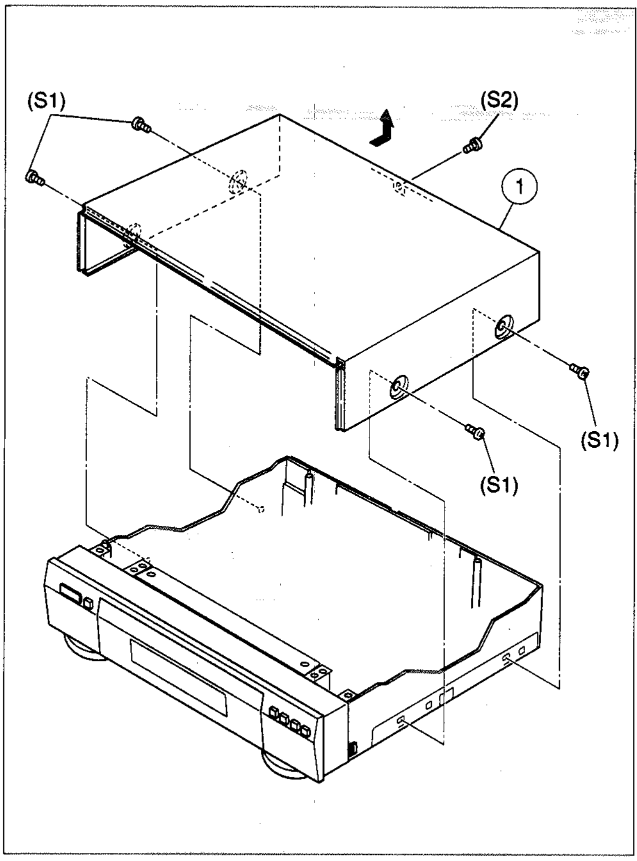


Fig. D1

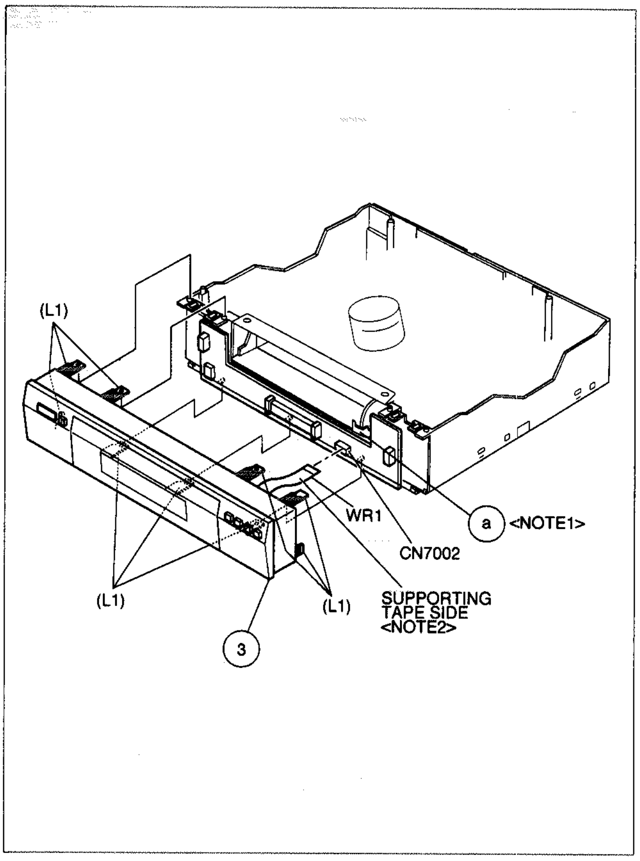

(L1)
WR1
a <NOTE1>
CN7002
(L1)
(L1)
SUPPORTING TAPE SIDE <NOTE2>
3

Fig. D3-1 [HR-S9600EU]

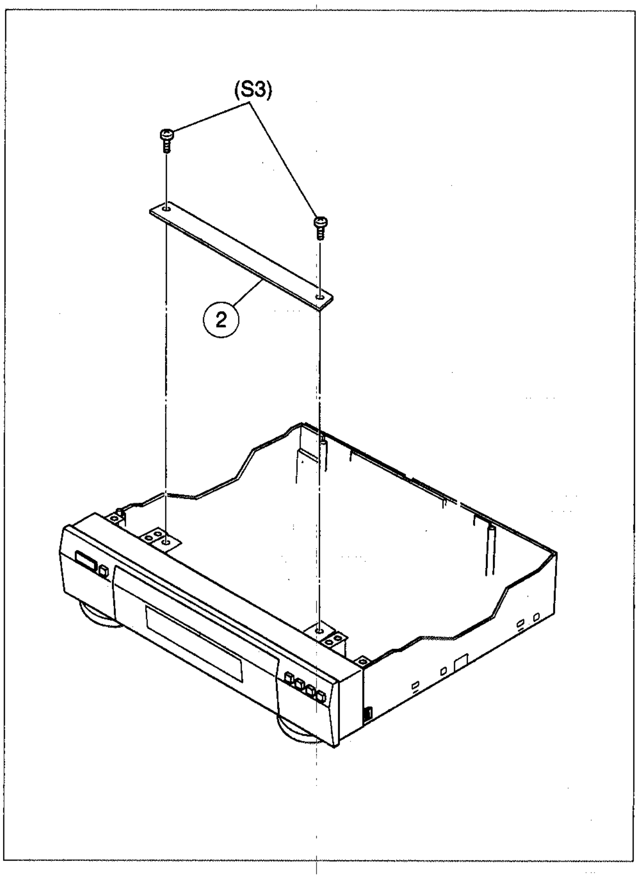


Fig. D2

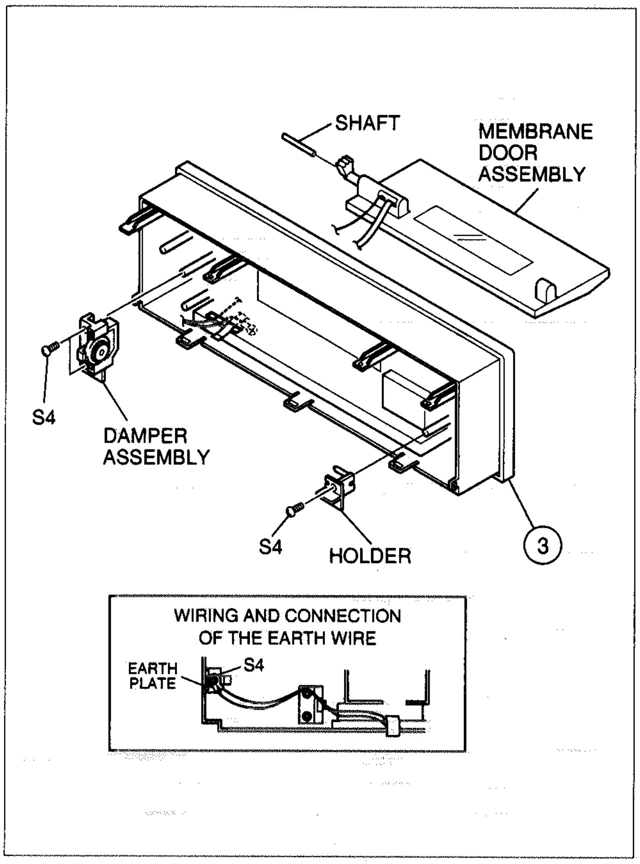

SHAFT
MEMBRANE DOOR ASSEMBLY
S4
DAMPER ASSEMBLY
S4
HOLDER
3
WIRING AND CONNECTION OF THE EARTH WIRE
EARTH PLATE
S4

Fig. D3-2 [HR-S9600EU]

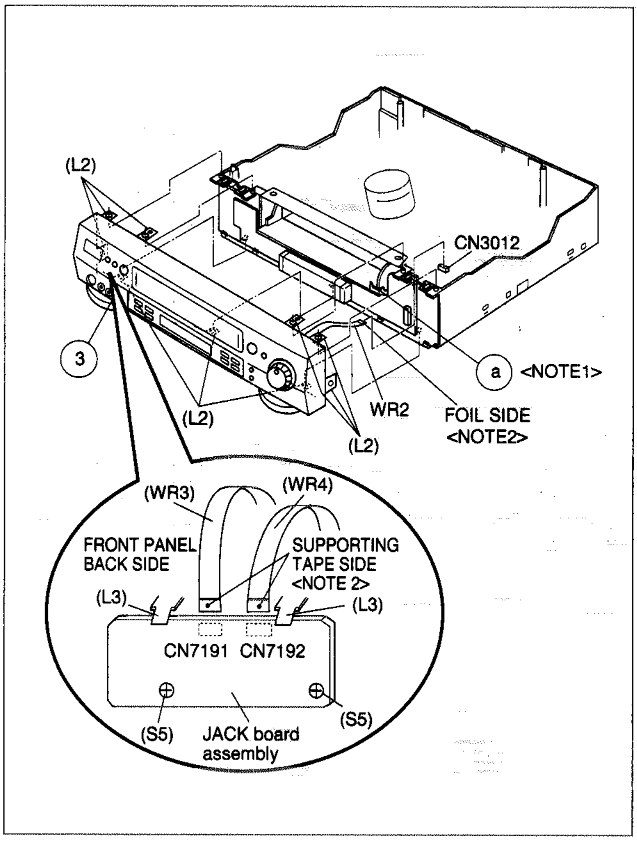

(L2)
CN3012
3
a
<NOTE1>
(L2)
WR2
FOIL SIDE
<NOTE2>
(L2)
(WR3)
(WR4)
FRONT PANEL
BACK SIDE
SUPPORTING
TAPE SIDE
<NOTE 2>
(L3)
(L3)
CN7191
CN7192
(S5)
(S5)
JACK board
assembly

Fig. D3-3 [HR-S8600EU]

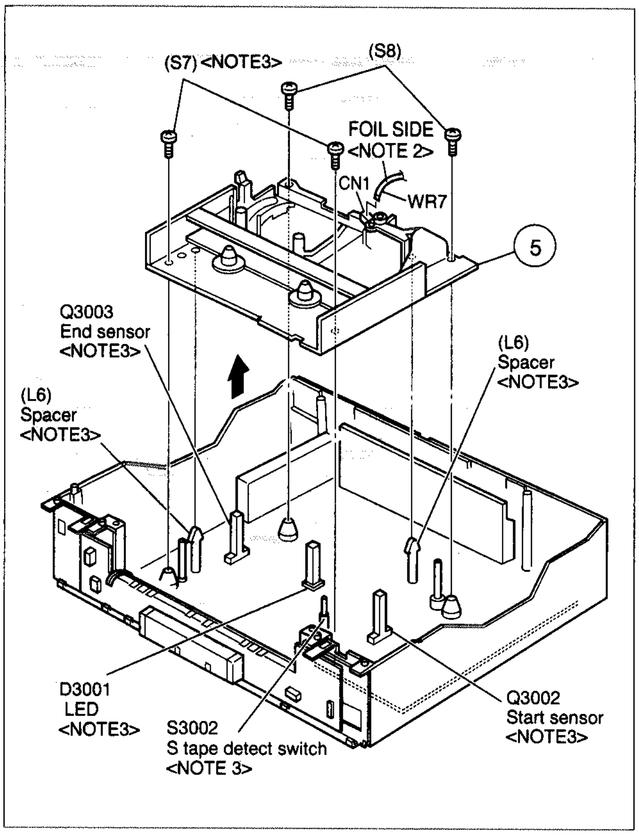

(S7) <NOTE3>
(S8)
FOIL SIDE
<NOTE 2>
CN1
WR7
5
Q3003
End sensor
<NOTE3>
(L6)
Spacer
<NOTE3>
(L6)
Spacer
<NOTE3>
D3001
LED
<NOTE3>
S3002
S tape detect switch
<NOTE 3>
Q3002
Start sensor
<NOTE3>

Fig. D5

NOTE : When installing the DRUM assembly, secure the screws (S6) in the order of A, B, C.

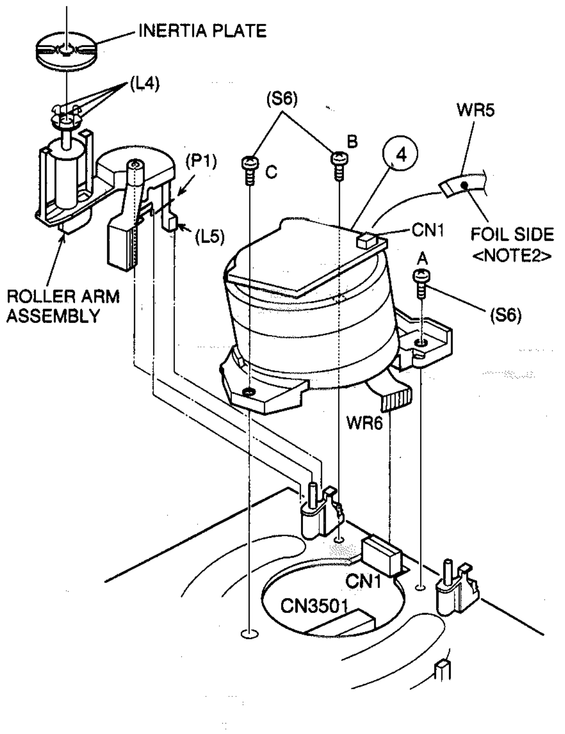

INERTIA PLATE
(L4)
(S6)
WR5
B
C
4
(P1)
(L5)
CN1
FOIL SIDE
<NOTE2>
A
(S6)
ROLLER ARM
ASSEMBLY
WR6
CN1
CN3501

Fig. D4

Procedures for Lowering the Cassette holder assembly

As the mechanism of this unit is integrated with the Housing assembly, the holder must be lowered and the two screws unscrewed when removing the Mechanism assembly.

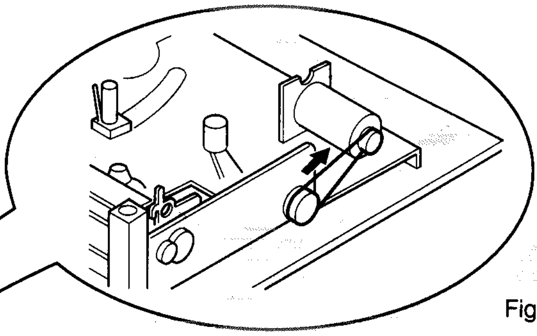


Fig. 2

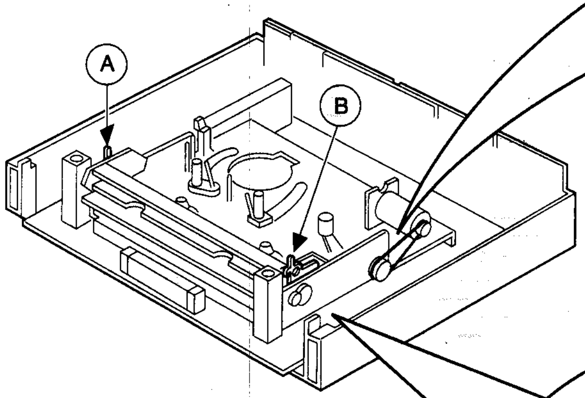


Fig. 1

Turn the loading motor pulley in the direction as indicated by Fig.2. As bothⒶandⒷlevers are lodged twice, push the levers in the direction as indicated by Fig.3 to release them. When pushing the levers, do it in the order of Ⓐ,Ⓑ,Ⓑ,Ⓐ. When the holder has been lowered, turn the pulley until the cassette holder is securely in place without allowing any up/ down movement.

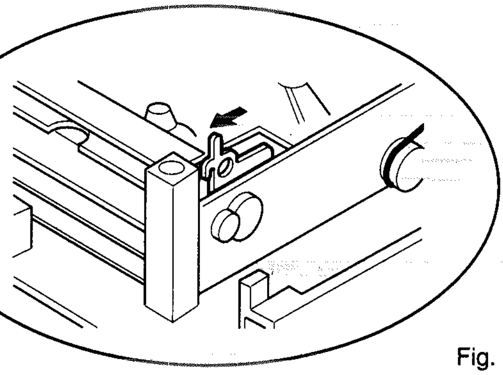


Fig. 3

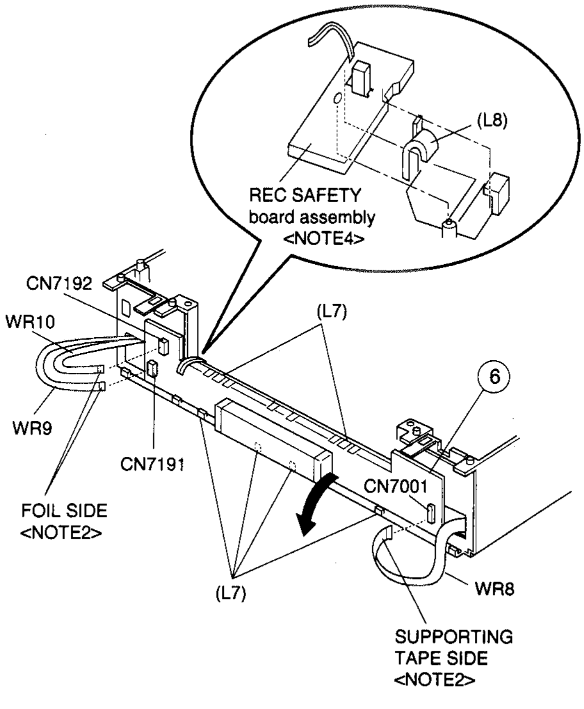

(L8)
REC SAFETY board assembly <NOTE4>
CN7192
WR10
(L7)
6
WR9
CN7191
CN7001
FOIL SIDE <NOTE2>
(L7)
WR8
SUPPORTING TAPE SIDE <NOTE2>

Fig. D6-1 [HR-S9600EU]

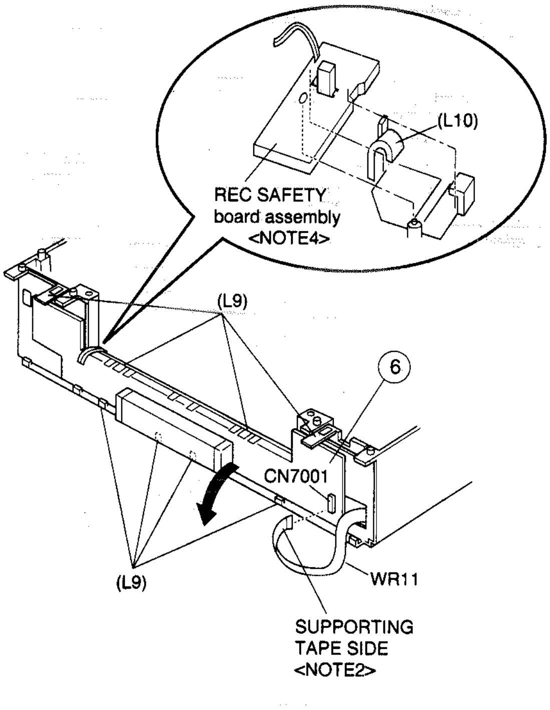

(L10)
REC SAFETY board assembly <NOTE4>
(L9)
6
CN7001
(L9)
WR11
SUPPORTING TAPE SIDE <NOTE2>

Fig. D6-2 [HR-S8600EU]

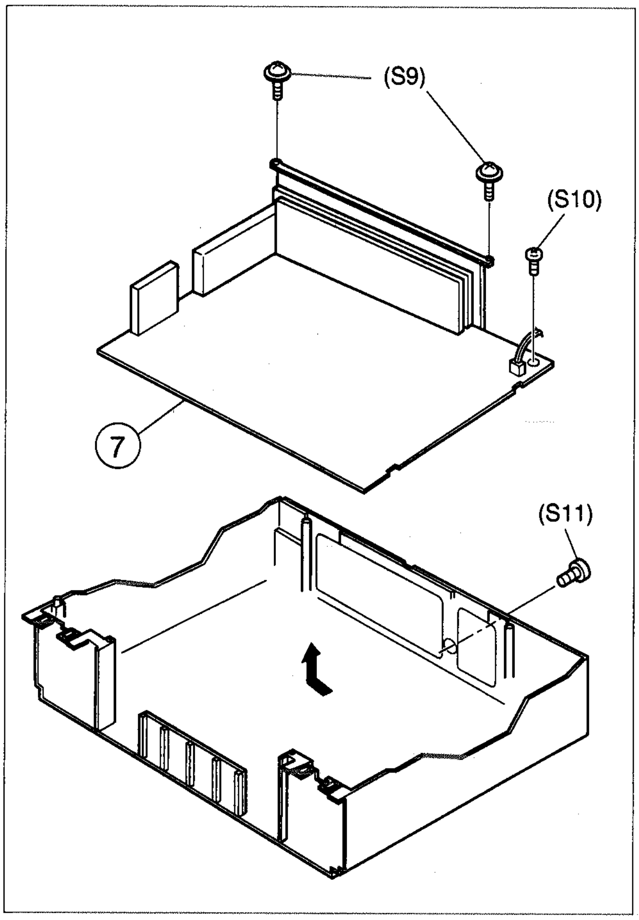


Fig. D7

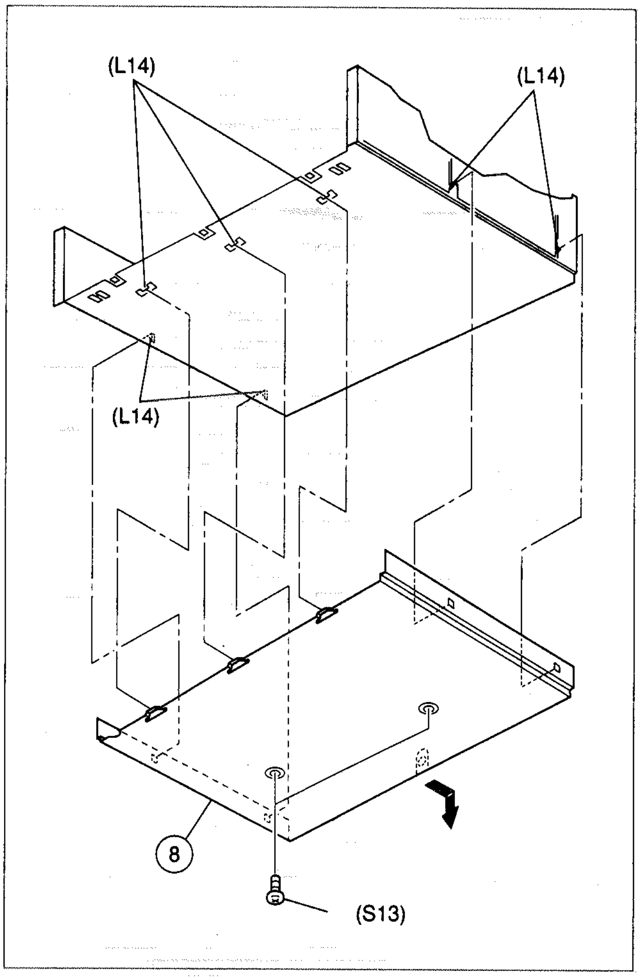

(L14)
(L14)
(L14)
8
(S13)

Fig. D8-2 [HR-S8600EU]

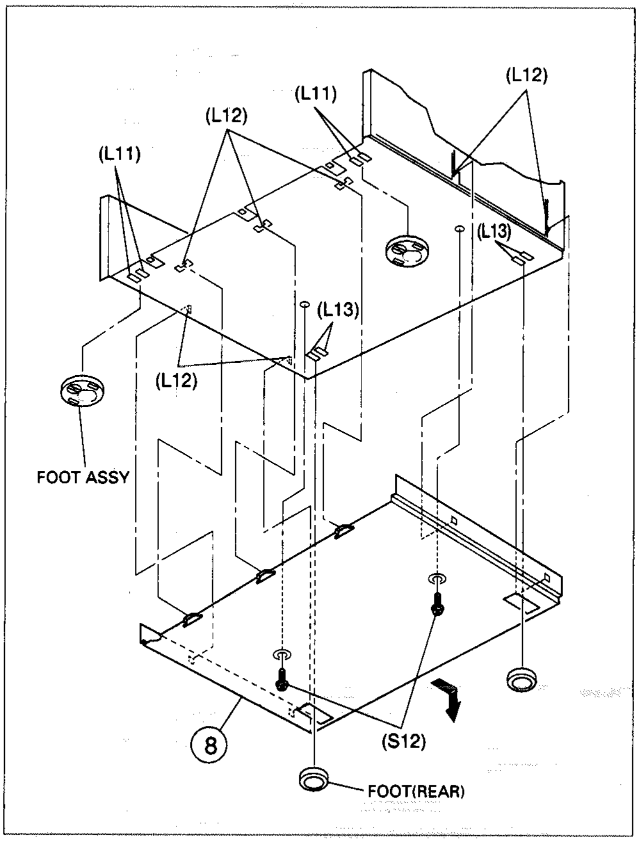

(L12)
(L11)
(L12)
(L11)
(L13)
(L13)
(L12)
FOOT ASSY
8
(S12)
FOOT(REAR)

Fig. D8-1 [HR-S9600EU]

1.4 SERVICE POSITION

In order to facilitate diagnosis and the repair of the Mechanism assembly, this unit is constructed so as to allow the Mechanism and Main board assemblies to be removed together from the Chassis assembly.

1.4.1 How to take out the Mechanism and Main board assemblies [HR-S9600EU]

(1) Remove the Top cover, Bracket and Front panel assembly. (See 1.3 DISASSEMBLY/ASSEMBLY METHOD. Take care not to pull the drum wire (Fig.D4) from CN1.)

(2) Lower the cassette holder, and make the preparations required in order to remove the screws from the Mechanism assembly. (Refer to the "Procedures for Lowering the Cassette holder assembly" on pages 1-4 of 1.3 DISASSEMBLY/ASSEMBLY METHOD.)

(3) Take out 2 screws Ⓐ and 2 screws Ⓑ as shown in Fig. 1-4-1.

(4) Remove the flat wires from CN3011 and CN7504 on the Main board assembly, CN7105 on the Terminal board assembly.

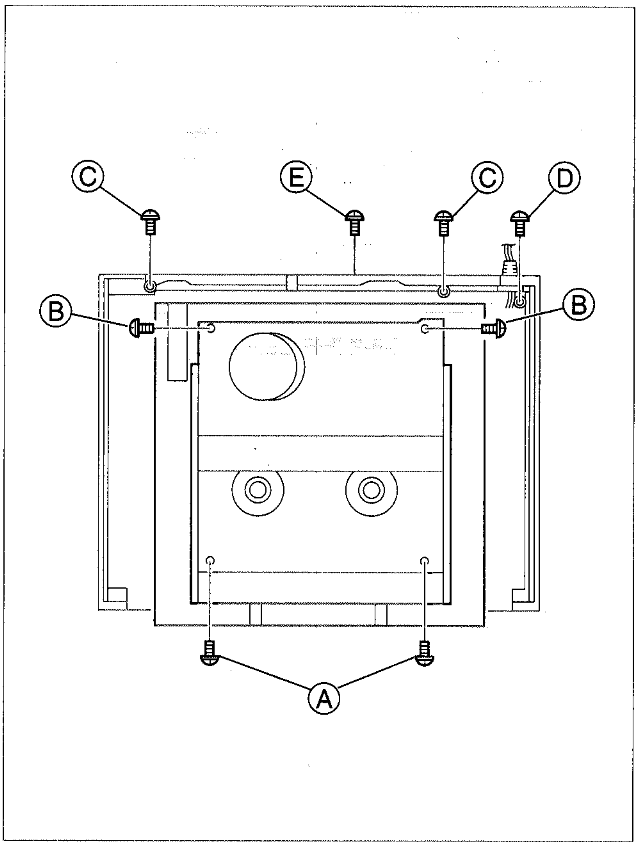


Fig. 1-4-1

(5) Take out 2 screws Ⓒ, 1 screw Ⓓ and 1 screw Ⓔ as shown in Fig. 1-4-1.

(6) Remove the Main board and Mechanism assemblies together while holding the edge of the Main board assembly. At this stage be careful of the power cord and prongs of the jacks on the back side. (See Fig. 1-4-2.)

(7) Remove the Switch/Display board assembly and REC safety board assembly. (Refer to page 1-4 of 1.3 DISASSEMBLY/ASSEMBLY METHOD. Take care not to pull the flat wires (Fig. D6-1) from CN7001, CN7191 and CN7192.)

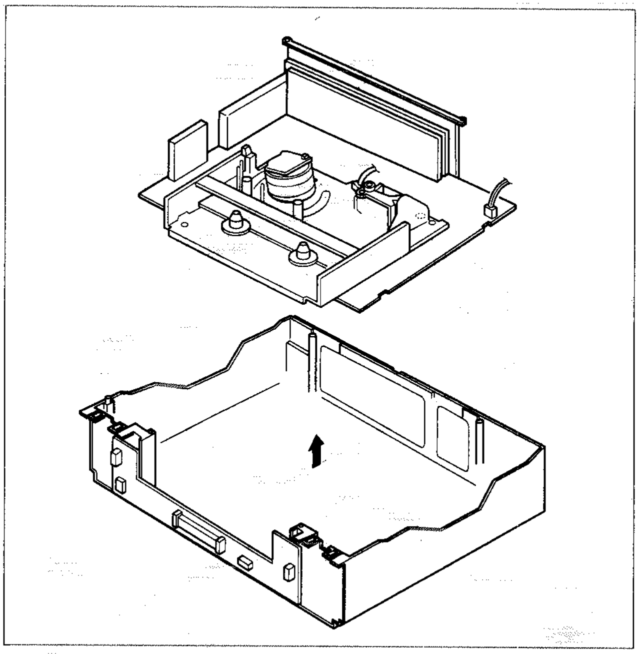


Fig. 1-4-2

(8) Place the Switch/Display board assembly and REC safety board assembly on the front side of the Mechanism and Main board assemblies which was removed at the step (6), then connect the flat wires into CN3011and CN7504 of the Main board assembly and CN7105 of the Terminal board assembly. (Refer to Fig. 1-4-3.)

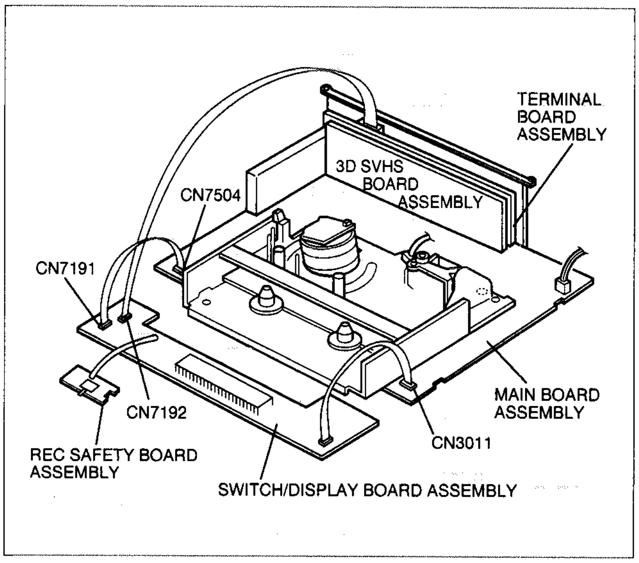


Fig. 1-4-3

(9) Connect the power cord to the wall socket, and lift the cassette holder.
(Before turning on the power make sure that there is nothing which may produce a short circuit, such as faulty soldering.)

Note: *When carrying out diagnosis and repair of the Main board assembly in the service position, be sure to ground both the Main board and the Mechanism assemblies.*

If they are improperly grounded, there may be noise on the playback picture or the FDP counter display may move even when the mechanism is kept in an inoperative status.

1.4.2 How to take out the Mechanism and Main board assemblies [HR-S8600EU]

(1) Remove the Top cover, Bracket, Front panel assembly and JACK board assembly. (See 1.3 DISASSEMBLY/ASSEMBLY METHOD. Take care not to pull the drum wire (Fig.D4) from CN1.)

(2) Lower the cassette holder, and make the preparations required in order to remove the screws from the Mechanism assembly. (Refer to the "Procedures for Lowering the Cassette holder assembly" on pages 1-4 of 1.3 DISASSEMBLY/ASSEMBLY METHOD.)

(3) Take out 2 screws Ⓐ and 2 screws Ⓑ as shown in Fig. 1-4-4.

(4) Remove the flat wires from CN3011 on the Main board assembly.

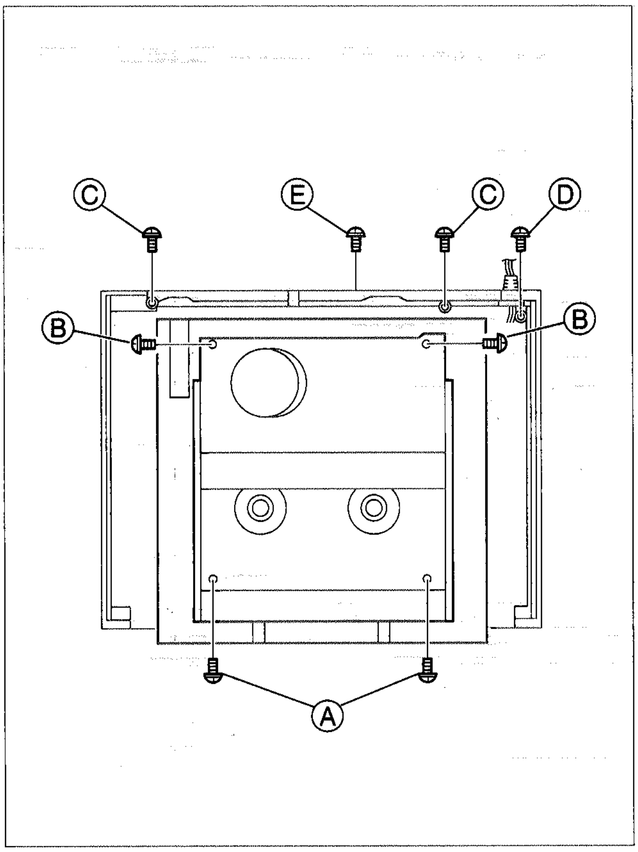


Fig. 1-4-4

(5) Take out 2 screws Ⓒ, 1 screw Ⓓ and 1 screw Ⓔ as shown in Fig. 1-4-4.

(6) Remove the Main board and Mechanism assemblies together while holding the edge of the Main board assembly. At this stage be careful of the power cord and prongs of the jacks on the back side. (See Fig. 1-4-5.)

(7) Remove the Switch/Display board assembly and REC safety board assembly. (Refer to page 1-4 of 1.3 DISASSEMBLY/ASSEMBLY METHOD. Take care not to pull the flat wire (Fig. D6-2) from CN7001.)

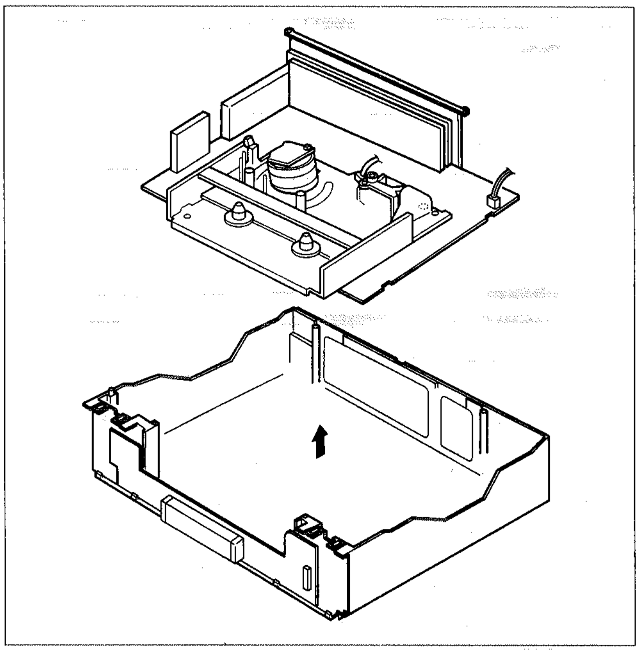


Fig. 1-4-5

(8) Place the Switch/Display board assembly, REC safety board assembly and Jack board assembly on the front side of the Mechanism and Main board assemblies which was removed at the step (6), then connect the flat wires into CN3011 of the Main board assembly, CN7191and CN7192 of the Jack board assembly. (Refer to Fig. 1-4-6.)

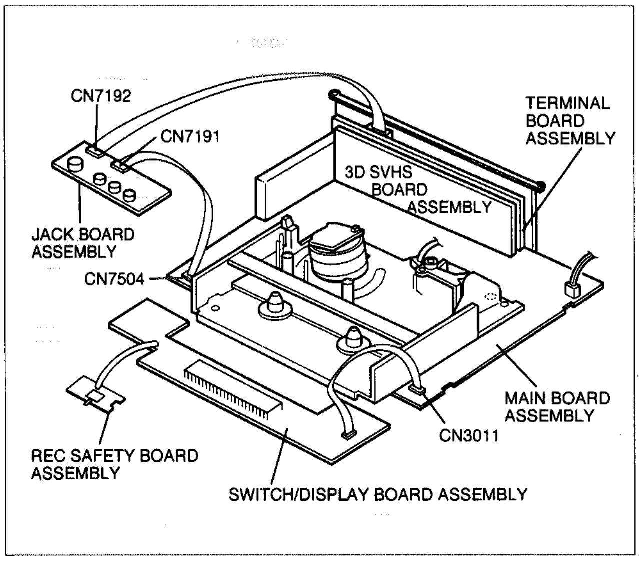


Fig. 1-4-6

(9) Connect the power cord to the wall socket, and lift the cassette holder.
(Before turning on the power make sure that there is nothing which may produce a short circuit, such as faulty soldering.)

Note: *When carrying out diagnosis and repair of the Main board assembly in the service position, be sure to ground both the Main board and the Mechanism assemblies.*

If they are improperly grounded, there may be noise on the playback picture or the FDP counter display may move even when the mechanism is kept in an inoperative status.

1.4.3 Precautions for cassette loading in the "SERVICE POSITION"

The REC safety board assembly detects cassette loading as well as cassette tabs. Therefore, after the assembly has been removed in the "SERVICE POSITION", it is required to set the switch manually on the REC safety board assembly when a cassette is loaded.

1.4.4 Cassette loading and ejection methods in the "SERVICE POSITION"(See Fig. 1-4-3 or Fig. 1-4-6).

(1) Insert a cassette halfway in the Cassette holder assembly.
(2) Set the switch on the REC safety board assembly to ON (by pressing the switch).
(3) As soon as the cassette starts to be loaded, set the switch on the REC safety board assembly to OFF (by releasing the switch).
(4) Now the desired operation (recording, playback, fast forward, rewind, etc.) is possible in this status (the status shown in Fig. 1-4-3 or Fig. 1-4-6).

NOTES:
- *When performing diagnostics of the tape playback or recording condition in the "SERVICE POSITION", enter the desired mode before turning the set upside down, and do not change the mode during diagnostics while the set is placed upside down. If you want to switch the mode, turn the set to the normal position (the status shown in Fig. 1-4-3or Fig. 1-4-6).*
- *When performing fast-forward and rewind, be sure to turn the set to the normal position.*
- *In the "SERVICE POSITION", the cassette tabs cannot be detected and recording becomes possible even with a cassette with broken tabs such as the alignment tape. Be very careful not to erase important tapes.*

(5) The switch on the REC safety board assembly does not have to be operated when ejecting a tape. But be sure to turn the set to the normal position before ejecting the tape.

1.5 MECHANISM SERVICE MODE

This model has a unique function to enter the mechanism into every operation mode without loading of any cassette tape. This function is called the "MECHANISM SERVICE MODE".

1.5.1 How to set the "MECHANISM SERVICE MODE"

(1) Disconnect VCR from AC.
(2) Connect TPGND and TP7001(TEST) on the Switch/Display board assembly with a jump wire.
(3) Connect VCR to AC.
(4) Press the POWER button.
(5) With lock levers ⒶⒷ on the left and right of the Cassette holder assembly pulled toward the front, slide the holder in the same direction as the cassette insertion direction. (For the positions of lock levers ⒶⒷ, refer to the "Procedures for Lowering the Cassette holder assembly" on pages 1-4 of 1.3 DISASSEMBLY/ASSEMBLY METHOD.)
(6) The cassette holder lowers and, when the loading has completed, the mechanism enters the desired mode.

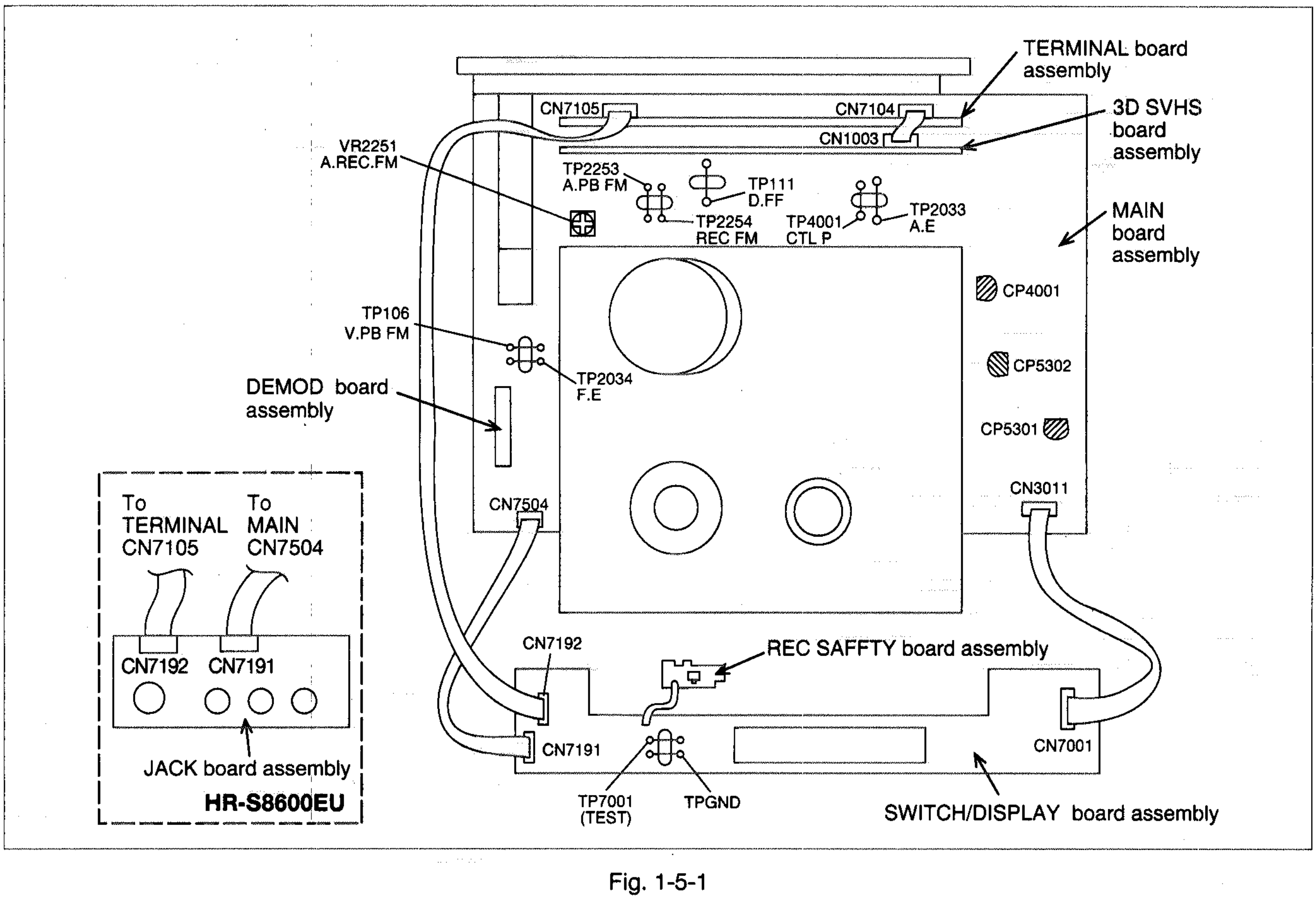

TERMINAL board assembly
3D SVHS board assembly
MAIN board assembly
CN7105
CN7104
CN1003
VR2251
A.REC.FM
TP2253
A.PB FM
TP111
D.FF
TP2254
REC FM
TP4001
CTL P
TP2033
A.E
CP4001
CP5302
CP5301
TP106
V.PB FM
TP2034
F.E
DEMOD board assembly
CN7504
CN3011
To TERMINAL CN7105
To MAIN CN7504
CN7192
CN7191
JACK board assembly
HR-S8600EU
CN7192
REC SAFFTY board assembly
CN7191
CN7001
TP7001 (TEST)
TPGND
SWITCH/DISPLAY board assembly

Fig. 1-5-1

1.6 EMERGENCY DISPLAY FUNCTION

This product has the function to store the last two previous emergency faults which can be displayed in the FDP when servicing.

1.6.1 How to display record of an emergency faults

Note: *Put the unit into A mode by using the VCR remote controller. (When it is in B mode, the preset remote control codes are not accepted.)*

(1) Press the "N" button of the presetting unit and the two previous emergency faults are shown in the FDP.
(2) Press the "N" button of the presetting unit again to return to the normal mode.

[Example] E : 01 : 03
Emergency fault before last
Emergency fault of the last time

[Example] E : — — : — — ← No record of emergency

1.6.3 How to clear emergency record

Press the COUNTER RESET button on the remote controller in the emergency record display mode, and the record of the emergency fault(s) is cleared.

1.6.2 Detail of emergency faults

EMG DATA	Symptom	Detect mode	Resulting mode
E : 01	Loading motor rotates for more than 8 Sec without shift to next mode.	Loading	POWER OFF
E : 02	Loading motor rotates for more than 8 Sec without shift to next mode.	Unloading	POWER OFF
E : 03	TU REEL FG input is absent. (for more than 4 Sec)	REC/PLAY/FF/REW SEARCH FF/SEARCH REW	STOP → POWER OFF
E : 04	DRUM FF input is absent. (for more than 3 Sec)	REC/PLAY/FF/REW SEARCH FF/SEARCH REW	STOP → POWER OFF
E : 06	CAPSTAN FG input is absent. (for more than 4 Sec)	REC/PLAY/FF/REW SEARCH FF/SEARCH REW	STOP → POWER OFF
E : 07	No SWD5V/12V	POWER ON	POWER OFF
E : 08	Initialized action of DD (Dynamic Drum) is not complete for less than 4 seconds.	Connect VCR to AC	STOP
E : 09	DD drive motor is not rotate for more than 2.5 seconds.	on TIME SCAN	STOP

Table 1-6-1 EMERGENCY FAULTS

1.7 SYSCON CIRCUIT

1.7.1 Syscon CPU pin function (IC3001) 1/2

PIN NO.	LABEL	IN/OUT	FUNCTION
1	CTL(+)	IN/OUT	CTL(+) SIGNAL
2	SVSS	-	GND
3	CTL(-)	IN/OUT	CTL(-) SIGNAL
4	CTLBIAS	-	CTL BIAS VOLTAGE
5	CTLFB	IN	CTL PULSE FEEDBACK
6	CTLAMPOUT	OUT	CTL PULSE OUTPUT
7	CTLSMTIN	IN	CTL PULSE INPUT
8	CFG	IN	CAPSTAN FG PULSE INPUT
9	SVCC	-	SYSTEM POWER
10	AVCC	-	SYSTEM POWER FOR ANALOG CIRCUIT
11	NORM/MESEC/S	IN	SVHS MODE:H
12	SECAM DET/KILLER OUT	-	NC
13	VIDEO ENV	IN	AUTO TRACKING DETECT/INPUT THE AVERAGE OF PLAYBACK VIDEO SIGNAL
14	START SENSOR	IN	START SENSOR
15	END SENSOR	IN	END SENSOR
16	IND(L)	IN	AUDIO INPUT (LCH) FOR THE FDP AUDIO INDICATOR
17	DD ABS	IN	DYNAMIC DRUM POSITION DETECT
18	SCR ID	IN	SCRAMBLE CONTROL INPUT (SCRAMBLE:H)
19	IND(R)	IN	AUDIO INPUT (RCH) FOR THE FDP AUDIO INDICATOR
20	BS ANT/AFC	IN	TUNING CLOCK
21	LED/RF AGC	IN	NC/CHANGES IN ATS+IC OUTPUT AS CAUSED BY CHANGES IN RECEIVER SENSITIVITY WHEN THE SAME CHANNEL IS RECEIVED MORE THAN ONCE ARE INPUT.
22	A.ENV/ND(L)	IN	AUDIO PB FM ENV.INPUT/NON HiFi MODE:L
23	AVSS	-	GND FOR ANALOG CIRCUIT
24	CTL GAIN	OUT	CONTROL AMP OUT FREQUENCY RESPONSE SWITCHING
25	LSA	IN	MECHANISM MODE DETECT(A)
26	LSB	IN	MECHANISM MODE DETECT(B)
27	LSC	IN	MECHANISM MODE DETECT(C)
28	CAP REV(L)	OUT	CAPSTAN MOTOR REVERSE CONTROL (FWD:H/REV:L)
29	RC	IN	REMOTE CONTROL DATA INPUT
30	R.PAUSE/COMPU IN	IN	REMOTE PAUSE CONTROL / A/V COMPULINK INPUT
31	P50 IN	IN	CONTROL SIGNAL FOR TV LINK
32	LMC3	OUT	LOADING MOTOR DRIVE(3)
33	P50 OUT/COMPU OUT	OUT	CONTROL SIGNAL FOR TV LINK
34	RAE	OUT	RAE TERMINAL FOR PAUSE OUT
35	LMC1	OUT	LOADING MOTOR DRIVE(1)
36	LMC2	OUT	LOADING MOTOR DRIVE(2)
37	P.CTL(H)	OUT	CONTROL SIGNAL FOR SWITCHING POWER SUPPLY
38	SB G(PWM)	OUT	VOLTAGE CONTROL SIGNAL FOR VIDEO FREQUENCY RESPONSE
39	STB/TEST	OUT	STROBE SIGNAL (FOR FDP DRIVER)
40	POWER DET	IN	DETECTION SIGNAL FOR POWER DOWN OF AC POWER SUPPLY
41	REC SAFETY	IN	REC SAFETY SWITCH DETECT (SW ON:L)
42	PROTECT	IN	DETECTION SIGNAL FOR SW POWER SUPPLY
43	VSS	-	GND
44	TRICK(H)	OUT	SPECIAL PLAYBACK:H
45	VCC	-	SYSTEM POWER
46	N.REC(H)	OUT	NORMAL AUDIO REC MODE CONTROL (REC:H)
47	SUB DATA	IN/OUT	SERIAL DATA TRANSFER OUTPUT FOR SUB CPU
48	SUB CLK	OUT	SERIAL DATA TRANSFER CLOCK FOR SUB CPU
49	I2C DATA	IN/OUT	SERIAL DATA TRANSFER OUTPUT FOR THE ON-SCREEN IC
50	I2C CLK	OUT	SERIAL DATA TRANSFER CLOCK FOR THE ON-SCREEN IC
51	S.DATA TOSYS	IN	SERIAL DATA TRANSFER OUTPUT FROM THE ON-SCREEN IC TO THE FDP DRIVER
52	S.DATA FRSYS	OUT	SERIAL DATA TRANSFER OUTPUT FROM THE FDP DRIVER TO THE ON-SCREEN IC
53	S.CLK	OUT	SERIAL DATA TRANSMISSION CLOCK FROM THE FDP DRIVER TO THE ON-SCREEN IC
54	SP FG	IN	DETECTION SIGNAL FOR SUPPLY REEL ROTATION/TAPE REMAIN
55	TU FG	IN	DETECTION SIGNAL FOR TAKE-UP REEL ROTATION/TAPE REMAIN
56	LOCK(L)	IN	TUNING PLL LOCK DETECT: L

Table 1-7-1 SYSCON CPU pin function(1/2)

1.7.2 Syscon CPU pin function (IC3001) 2/2

PIN NO.	LABEL	IN/OUT	FUNCTION
57	TU CE	OUT	CHIP ENABLE OF THE TUNER UNIT
58	JUST CLK/CCIR(H)	OUT	NC/EXCEPT FOR NTSC:L
59	DDFG	IN	DYNAMIC DRUM FG INPUT
60	TU CLK	OUT	CLOCK FOR DATA TRANSFER TO THE TUNER UNIT
61	TU DATA	OUT	TUNING DATA
62	FWE	-	NC
63	NMI(L)/OPERATE SW	IN	DETECTION SIGNAL DURING PRESSING THE SWITCHES ON THE MEMBRANE DOOR (DETECTED: L, THE SIGNAL FROM IR RECEIVER CANNOT BE RECEIVED)
64	X2	-	TIMER CLOCK (32.768KHz)
65	X1	-	TIMER CLOCK (32.768KHz)
66	RES(L)	-	RESET TERMINAL (RESET ON:L)
67	OSC1(IN)	-	MAIN SYSTEM CLOCK(10MHz)
68	VSS	-	GND
69	OSC2(OUT)	-	MAIN SYSTEM CLOCK(10MHz)
70	VCC	-	SYSTEM POWER
71	MODE	-	NC
72	TU A MUTE(H)	OUT	TUNER AUDIO MUTE CONTROL (MUTE:H)
73	TU V MUTE(H)	OUT	TUNER VIDEO CONTROL (MUTE:H)
74	A.MUTE(H)	OUT	AUDIO MUTE CONTROL (MUTE:H)
75	I2C CLK2	OUT	SERIAL DATA TRANSFER CLOCK FOR MEMORY IC
76	I2C DATA2	IN/OUT	SERIAL DATA TRANSFER OUTPUT FOR MEMORY IC
77	DDCFWD	OUT	DYNAMIC DRUM CONTROL(FORWARD)
78	DDCREV	OUT	DYNAMIC DRUM CONTROL(REVERSE)
79	DDSPDCTL	OUT	DYNAMIC DRUM SPEED CONTROL
80	V.P.CTL	OUT	V.PULSE CONTROL, V COMPENSATION DURING SPECIAL PLAYBACK
81	PAL EP CTL/R-Y REV	OUT	D.FF TIMING CONTROL SIGNAL FOR SPECIAL PLAYBACK
82	VCC	-	SYSTEM POWER
83	SLOW P	OUT	MEMORY TIMING CONTROL IN THE SLOW MODE
84	VSS	-	GND
85	SP SHORT(H)	-	NC
86	LP SHORT(H)	-	NC
87	FLY ON(H)	OUT	FLYING ERASE ON:H
88	A.REC ST(H)	OUT	HIFI AUDIO SOUND RECORDING START
89	SECAM(H)	-	NC
90	HEAD SEL	OUT	HEAD SELECT(LP HEAD:H, SP HEAD:L)
91	OSD CS	OUT	CHIP SELECT FOR THE ON-SCREEN IC
92	SYNC DET(H)	IN	DETECTION OF VIDEO SYNC SIGNAL (DETECTED:H)
93	P.MUTE(L)	OUT	PICTURE MUTE CONTROL (MUTE:L)
94	JSB/STLB	IN	INPUT FOR THE JOG SHUTTLE
95	SHTL(L)/JOGA	IN	INPUT FOR THE JOG SHUTTLE
96	JOGB	IN	INPUT FOR THE JOG SHUTTLE
97	JSA/STLA	IN	INPUT FOR THE JOG SHUTTLE
98	C.SYNC	IN	COMPOSITE SYNC
99	A.FF	OUT	AUDIO FF OUTPUT
100	V.FF	OUT	ROTATION DETECTION SIGNAL FOR DRUM MOTOR/TIMING CONTROL SIGNAL FOR REC
101	CAPPWM	OUT	CAPSTAN MOTOR CONTROL
102	DRUMPWM	OUT	DRUM MOTOR CONTROL
103	SUB RESET/V.UP(H)	OUT	SUB CPU RESET(RESET:L)/NC
104	S.CASS(H)	IN	DETECTION SIGNAL FOR SVHS CASSETTE (SVHS:H)
105	PERI 1S	IN	INPUT FOR THE TERMINAL SLIDE SW POSI IN THE SAT MODE
106	LOCK(L)/P.SAVE(L)	OUT	NC/POWER SAVE:L
107	DPG	IN	DRUM PICKUP PULSE INPUT (SWITCHING PULSE)
108	DFG	IN	DRUM FG PULSE INPUT
109	VCC	-	SYSTEM POWER
110	V.PULSE	OUT	V.PULSE ADDITION TIMING CONTROL
111	VSS	-	GND
112	CTLREF	-	CTL REFERENCE VOLTAGE

Table 1-7-2 SYSCON CPU pin function(2/2)

SECTION 2
MECHANISM ADJUSTMENT

2.1 BEFORE STARTING REPAIR AND ADJUSTMENT

2.1.1 Precautions

(1) Unplug the power cable of the main unit before using your soldering iron.
(2) Take care not to cause any damage to the conductor wires when plugging and unplugging the connectors.
(3) Do not randomly handle the parts without identifying where the trouble is.
(4) Exercise enough care not to damage the lugs, etc. during the repair work.
(5) When installing the front panel assembly, be sure to hook the lug on the back side of the cassette door to the door opener of the cassette holder. If this operation is neglected it will not be possible to remove the cassette when ejecting because the housing door cannot be opened.

2.1.2 Checking for Proper Mechanical Operations

Enter the mechanism service mode when you want to operate the mechanism when no cassette is loaded. (See 1.5 MECHANISM SERVICE MODE.)

2.1.3 Manually Removing the Cassette Tape

1. In case of electrical failures

If you cannot remove the cassette tape which is loaded because of any electrical failure, manually remove it by taking the following steps.

(1) Unplug the power cable and remove the top cover, bracket and front panel assembly. (See 1.3 DISASSEMBLY/ASSEMBLY METHOD.)
(2) Unload the cassette by manually turning the loading motor of the mechanism assembly toward the front. In doing so, hold the tape by the hand to keep the slack away from any grease. (See Fig.2-1-1.)
(3) Bring the pole base assembly (supply or take-up side) to a pause when it reaches the position where it is hidden behind the cassette tape.
(4) Move the top guide toward the drum while holding down the lug Ⓐ of the bracket retaining the top guide. Likewise hold part Ⓑ down and remove the top guide. Section Ⓒ of the top guide is then brought under the cassette lid. Then remove the top guide by pressing the whole cassette tape down. (See Fig.2-1-2.)
(5) Remove the cassette tape by holding both the slackened tape and the cassette lid.
(6) Take up the slack of the tape into the cassette. This completes removal of the cassette tape.

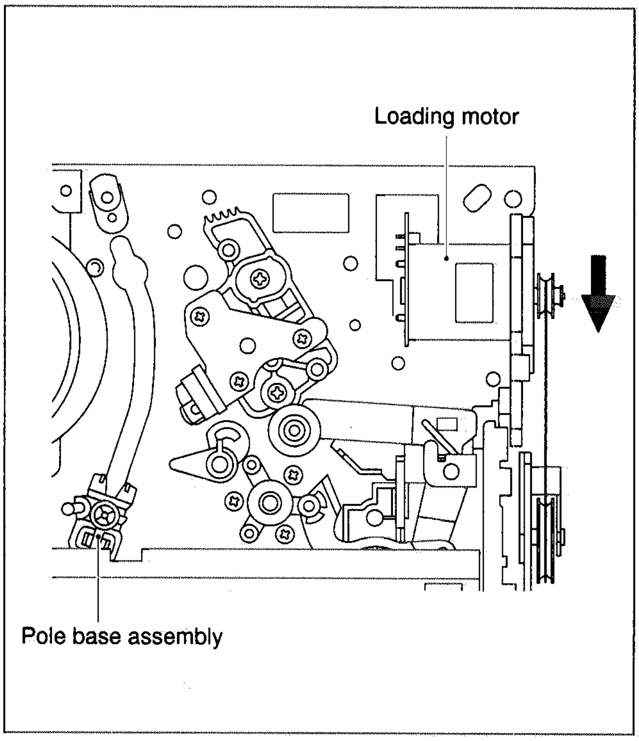


Fig. 2-1-1

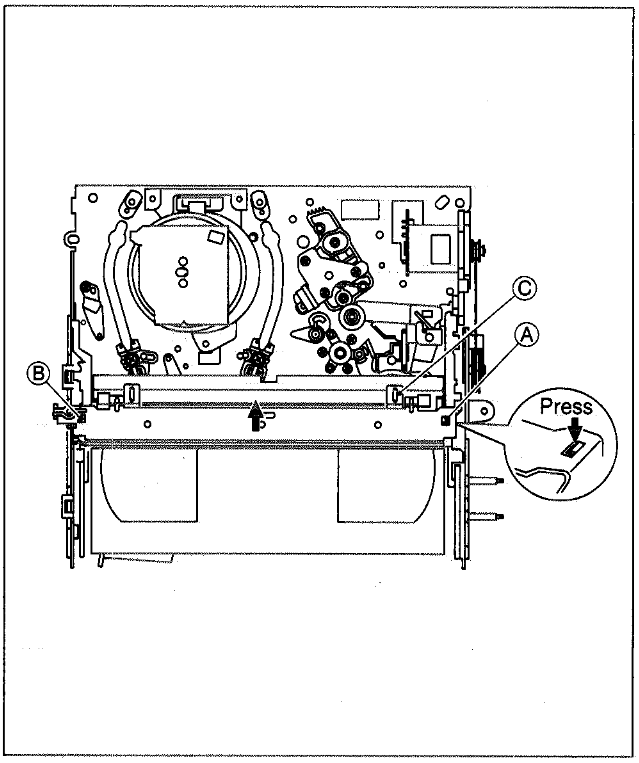


Fig. 2-1-2

2. In case of mechanical failure

If you cannot remove the cassette tape which is loaded because of any mechanical failure, manually remove it by taking the following steps.

(1) Unplug the power cable and remove the top cover, front panel assembly and others so that the mechanism assembly is visible. (See 1.3 DISASSEMBLY/ASSEMBLY METHOD.)

(2) While keeping the tension arm assembly of the mechanism assembly free from tension, pull the tape on the pole base assembly (supply or take-up side) out of the guide roller. (See Fig.2-1-3.)

(3) Take the spring of the pinch roller arm assembly off the hook of the press lever assembly, and detach it from the tape. (See Fig.2-1-4.)

(4) In the same way as in the electrical failure instructions in 2.1.3 (4), remove the top guide.

(5) Raise the cassette tape cover. By keeping it in that position, draw out the cassette tape case from the cassette holder and take out the tape.

(6) By hanging the pinch roller arm assembly spring back on the hook, take up the slack of the tape into the cassette.

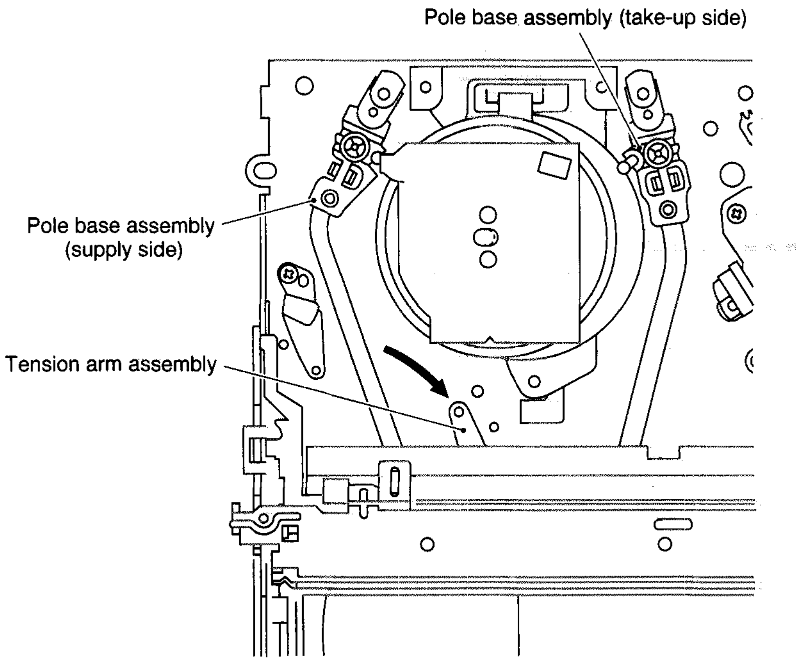

Pole base assembly (take-up side)
Pole base assembly (supply side)
Tension arm assembly

Fig. 2-1-3

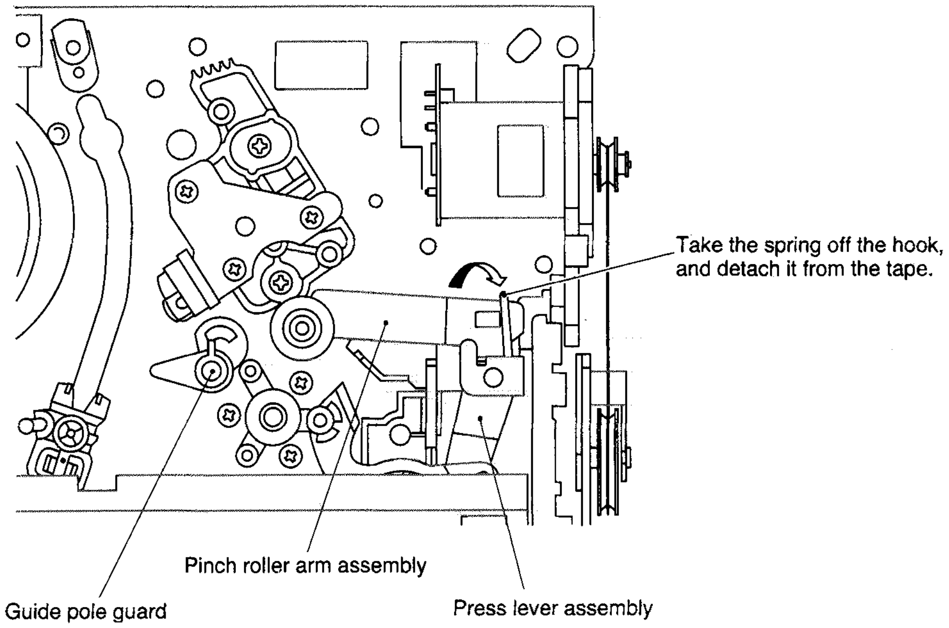

Take the spring off the hook, and detach it from the tape.
Pinch roller arm assembly
Guide pole guard
Press lever assembly

Fig. 2-1-4

2.1.4 Jigs and Tools Required for Adjustment

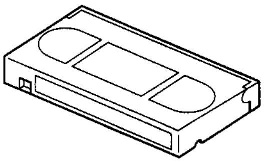
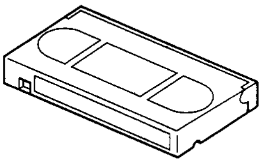
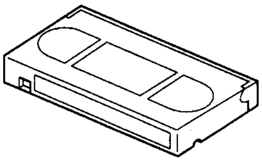
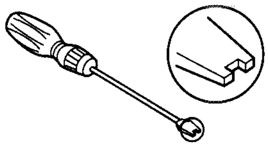
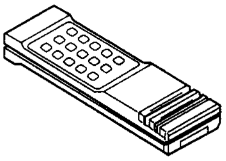
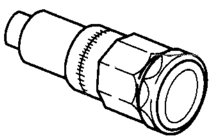
Alignment tape (SP) MHPE	Alignment tape (LP) MHPE-L	Back tension cassette gauge PUJ48076-2	A/C head position bit PTU94010
			
Roller driver PTU94002	Presetting unit PTU94008	Torque gauge PUJ48075-2	
			

Table 2-1-1 Jigs and tools required for adjustment

2.1.5 Maintenance and Inspection

1. Location of major mechanical parts

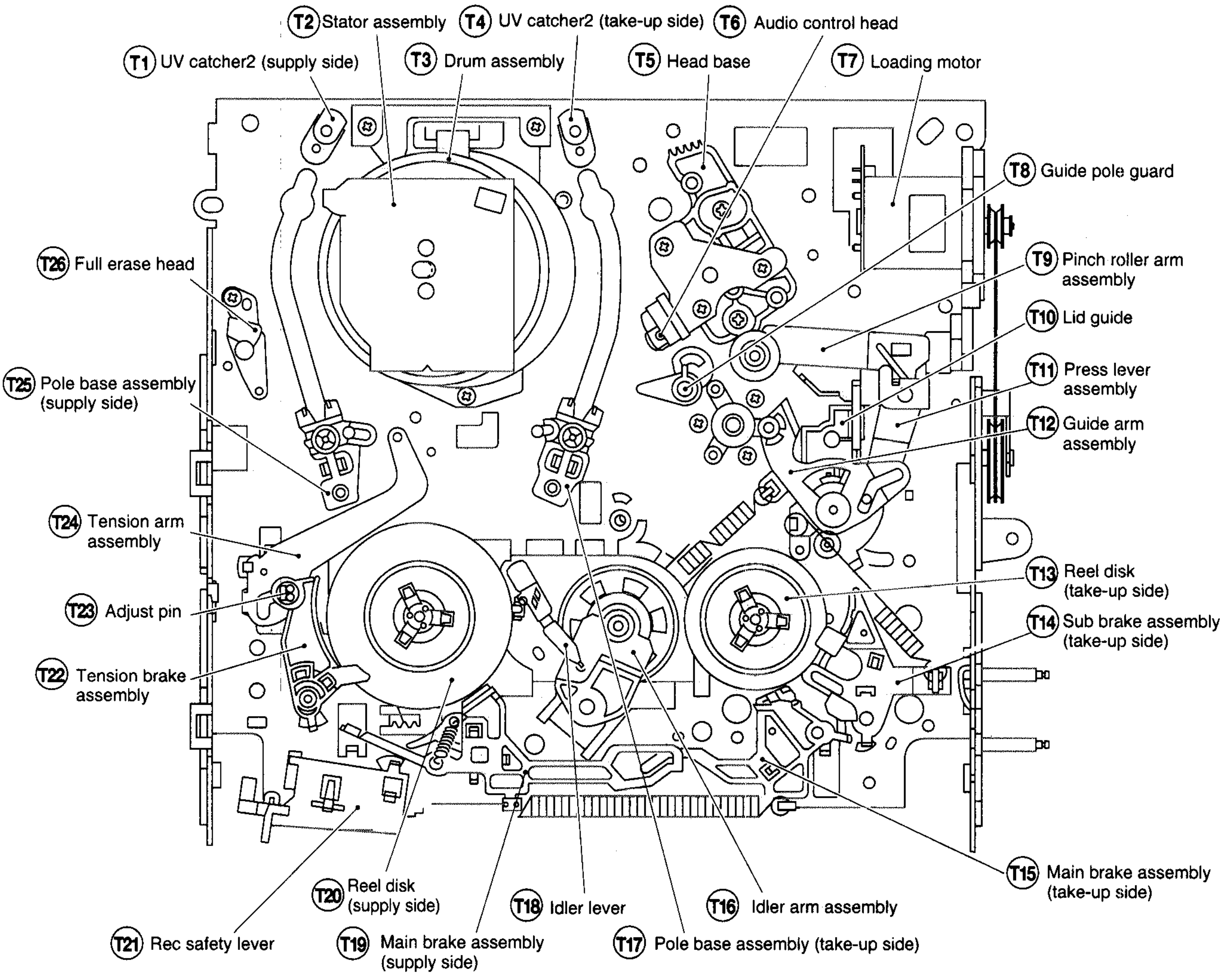

T2 Stator assembly
T4 UV catcher2 (take-up side)
T6 Audio control head
T1 UV catcher2 (supply side)
T3 Drum assembly
T5 Head base
T7 Loading motor
T8 Guide pole guard
T26 Full erase head
T9 Pinch roller arm assembly
T10 Lid guide
T25 Pole base assembly (supply side)
T11 Press lever assembly
T12 Guide arm assembly
T24 Tension arm assembly
T13 Reel disk (take-up side)
T23 Adjust pin
T14 Sub brake assembly (take-up side)
T22 Tension brake assembly
T15 Main brake assembly (take-up side)
T20 Reel disk (supply side)
T18 Idler lever
T16 Idler arm assembly
T21 Rec safety lever
T19 Main brake assembly (supply side)
T17 Pole base assembly (take-up side)

Fig. 2-1-5 Mechanism assembly top side

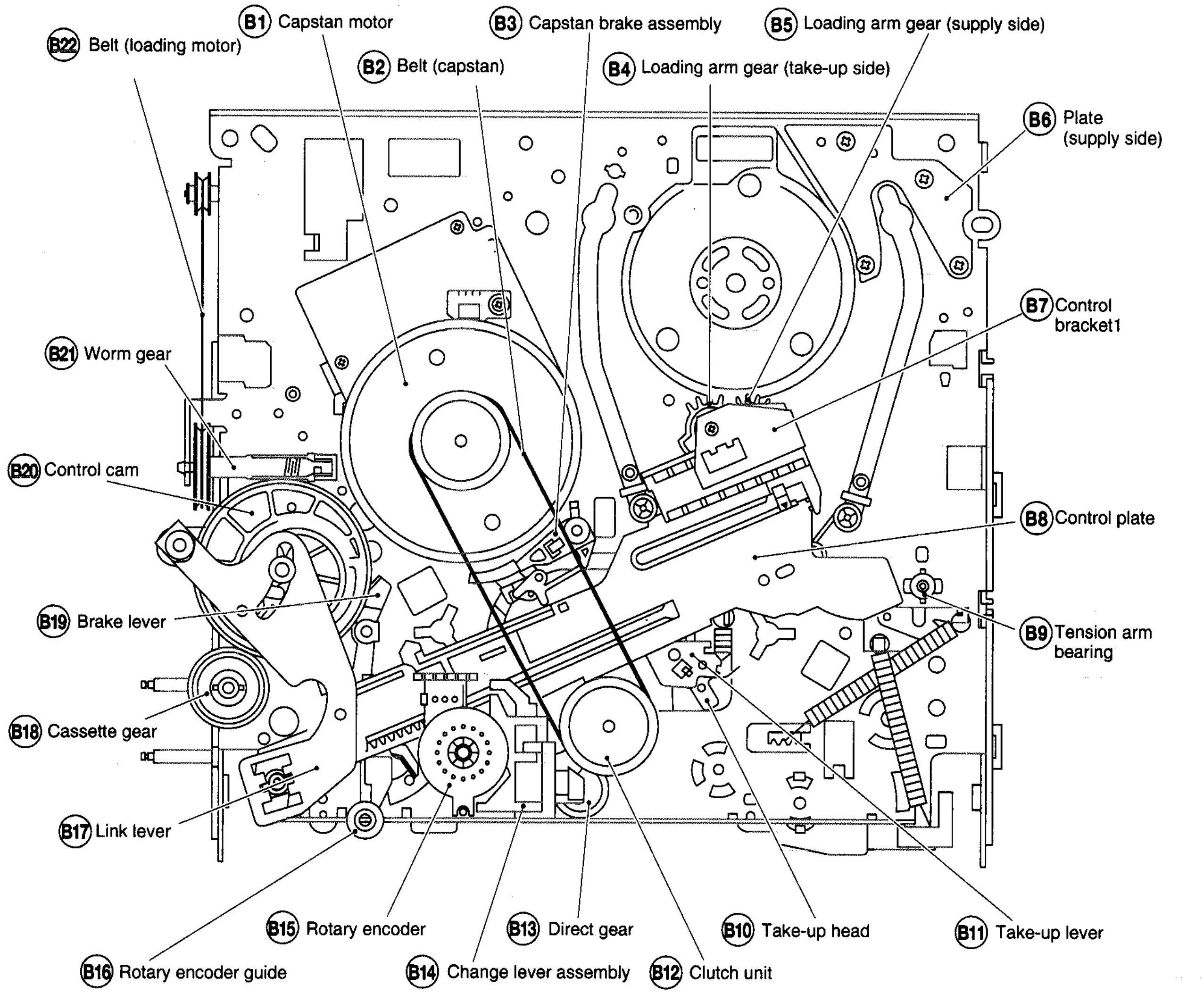

B1 Capstan motor
B22 Belt (loading motor)
B3 Capstan brake assembly
B5 Loading arm gear (supply side)
B2 Belt (capstan)
B4 Loading arm gear (take-up side)
B6 Plate (supply side)
B7 Control bracket1
B21 Worm gear
B20 Control cam
B8 Control plate
B19 Brake lever
B9 Tension arm bearing
B18 Cassette gear
B17 Link lever
B15 Rotary encoder
B13 Direct gear
B10 Take-up head
B11 Take-up lever
B16 Rotary encoder guide
B14 Change lever assembly
B12 Clutch unit

Fig. 2-1-6 Mechanism assembly bottom side

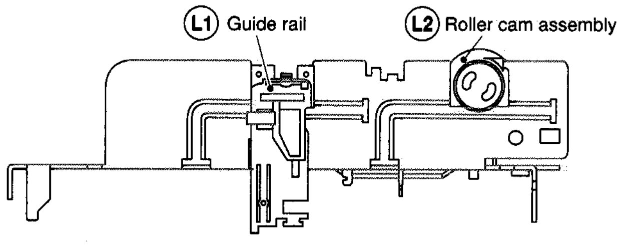

L1 Guide rail
L2 Roller cam assembly

Fig. 2-1-7 Mechanism assembly left side

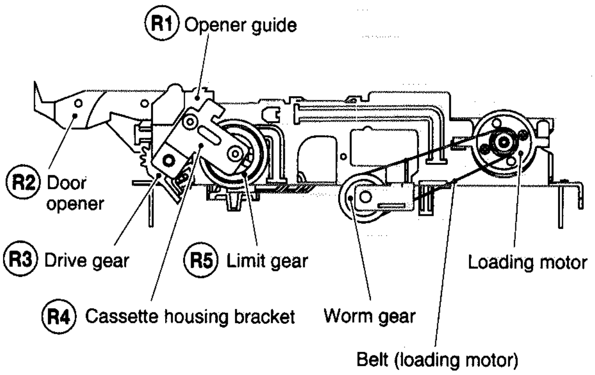

R1 Opener guide
R2 Door opener
R3 Drive gear
R5 Limit gear
Loading motor
R4 Cassette housing bracket
Worm gear
Belt (loading motor)

Fig. 2-1-8 Mechanism assembly right side

Note: *This table shows the order in which parts are removed for replacement. To replace parts, remove them in the order of 1 to 18 as shown in the table. To install them, reverse the removal sequence.*
The circled numbers (symbols and numbers) preceding the individual part names represent the numbers in the "Location of major mechanical parts" table. Also, the "T", "B", and "T/B" on the right of each part name shows that the particular part is removed from the front, from the back, and from both sides of the mechanism, respectively.

	Symbols and numbers			(L1)	(L2)	(R4)	(R1)	–	–	(R3)	–	(T9)	(T12)	(T11)	(T1)(T4)	(B15)	(B12)	(B14)	(B13)	(B17)	(B21)	(B7)	(B8)	(B5)	(B4)	(B11)	(T14)	(T15)	(T13)	(T22)	(T24)	(T18)	(B19)
Symbols and numbers	Removal parts / (Reference items) Replacement parts	Front (T)/Back (B) of mechanism	Number of removal steps	Guide rail	Roller cam assembly	Cassette housing bracket	Opener guide	Relay gear	Cassette holder assembly	Drive gear	Drive arm	Pinch roller arm assembly	Guide arm assembly	Press lever assembly	UV catcher2	Rotary encoder	Clutch unit	Change lever assembly	Direct gear	Link lever	Worm gear	Control bracket1	Control plate	Loading arm gear (supply side)	Loading arm gear (take-up side)	Take-up lever	Sub brake assembly (take-up side)	Main brake assembly (take-up side)	Reel disk (take-up side)	Tension brake assembly	Tension arm assembly	Idler lever	Brake lever
(L1)	2.2.3 Guide rail	T	1																														
(L2)	2.2.3 Roller cam assembly	T	1																														
(R4)	2.2.3 Cassette housing bracket	T	1																														
(R1)	2.2.3 Opener guide	T	2			1																											
(R2)	2.2.3 Door opener	T	3			1	2																										
–	2.2.3 Relay gear	T	3			1	2																										
(R5)	2.2.3 Limit gear	T	3			1	2																										
–	2.2.3 Cassette holder assembly	T	6	1	2	3	4	5																									
(R3)	2.2.3 Drive gear	T	4			1	2	3																									
–	2.2.3 Drive arm	T	8	1	2	3	4	5	6	7																							
(T9)	2.2.4 Pinch roller arm assembly	T	1																														
(T12)	2.2.5 Guide arm assembly	T	1																														
(T11)	2.2.5 Press lever assembly	T	3									1	2																				
(T6)	2.2.6 Audio control head	T	1																														
(T7)	2.2.7 Loading motor	T	1																														
(B1)	2.2.8 Capstan motor	T/B	1																														
(T1)(T4)	2.2.9 UV catcher2	T	1																														
(T17)	2.2.9 Pole base assembly (take-up side)	T/B	2												1																		
(T25)	2.2.9 Pole base assembly (supply side)	T/B	2												1																		
(B15)	2.2.10 Rotary encoder	B	1																														
(B12)	2.2.11 Clutch unit	B	1																														
(B14)	2.2.12 Change lever assembly	B	3													1	2																
(B13)	2.2.12 Direct gear	B	4													1	2	3															
–	2.2.12 Clutch gear1	B	5													1	2	3	4														
(B17)	2.2.13 Link lever	B	1																														
(B18)	2.2.14 Cassette gear	B	2																	1													
(B20)	2.2.14 Control cam	B	2																	1													
(B21)	2.2.14 Worm gear	B	1																														
(T10)	- Lid guide	T/B	5									1	2	3							4												
(B7)	2.2.15 Control bracket1	B	1																														
(B8)	2.2.15 Control plate	B	6													1	2	3		4		5											
(B5)	2.2.16 Loading arm gear (supply side)	B	7													1	2	3		4		5	6										
(B4)	2.2.16 Loading arm gear (take-up side)	B	8													1	2	3		4		5	6	7									
–	2.2.16 Loading arm gear shaft	B	9													1	2	3		4		5	6	7	8								
(B11)	2.2.17 Take-up lever	T/B	7													1	2	3		4		5	6										
(B10)	2.2.17 Take-up head	T/B	8													1	2	3		4		5	6			7							
–	2.2.17 Control plate guide	T/B	8													1	2	3		4		5	6			7							
(B3)	2.2.18 Capstan brake assembly	T/B	7													1	2	3		4		5	6										
(T14)	2.2.19 Sub brake assembly(take-up side)	T/B	15	1	2	3	4	5	6	7	8					9	10	11		12		13	14										
(T15)	2.2.20 Main brake assembly(take-up side)	T/B	16	1	2	3	4	5	6	7	8					9	10	11		12		13	14				15						
(T19)	2.2.20 Main brake assembly(supply side)	T/B	9	1	2	3	4	5	6	7	8																						
(T13)	2.2.20 Reel disk (take-up side)	T/B	16	1	2	3	4	5	6	7	8					9	10	11		12		13	14				15						
(T22)	2.2.21 Tension brake assembly	T/B	9	1	2	3	4	5	6	7	8																						
(T20)	2.2.21 Reel disk (supply side)	T/B	10	1	2	3	4	5	6	7	8																			9			
(T24)	2.2.21 Tension arm assembly	T/B	10	1	2	3	4	5	6	7	8																			9			
(B9)	2.2.21 Tension arm bearing	T/B	10	1	2	3	4	5	6	7	8																			9			
(T18)	2.2.22 Idler lever	T/B	17	1	2	3	4	5	6	7	8					9	10	11		12		13	14							15	16		
(T16)	2.2.22 Idler arm assembly	T/B	18	1	2	3	4	5	6	7	8					9	10	11		12		13	14							15	16	17	
(B19)	- Brake lever	T/B	18	1	2	3	4	5	6	7	8					9	10	11		12		13	14				15	16	17				
(B16)	- Rotary encoder guide	T/B	19	1	2	3	4	5	6	7	8					9	10	11		12		13	14				15	16	17				18

2. Cleaning

Regular cleaning of the transport system parts is desirable but practically impossible. So make it a rule to carry out cleaning of the tape transport system whenever the machine is serviced.

When the video head, tape guide and/or brush get soiled, the playback picture may appear inferior or at worst disappear, resulting in possible tape damage.

(1) When cleaning the upper drum (especially the video head), soak a piece of closely woven cloth or Kimu-wipe with alcohol and while holding the cloth onto the upper drum by the fingers, turn the upper drum counterclockwise.

Note: ***Absolutely avoid sweeping the upper drum vertically as this will cause damage to the video head.***

(2) To clean the parts of the tape transport system other than the upper drum, use a piece of closely woven cloth or a cotton swab soaked with alcohol.

(3) After cleaning, make sure that the cleaned parts are completely dry before using the video tape.

3. Lubrication

With no need for periodical lubrication, you have only to lubricate new parts after replacement. If any oil or grease on contact parts is soiled, wipe it off and newly lubricate the parts.

(1) See the mechanism assembly and disassembly diagrams (M4) for the lubricating or greasing spots. See Table 2-1-2 for the types of oil or grease to be used.

Type	Name	Serial No.	Symbols on the disassembly diagrams
Grease	Maltemp SH-P	KYODO-SH-P	AA
Oil	Cosmohydro HV56	COSMO-HV56	BB

Table 2-1-2 Grease and oil used for the unit

4. Suggested servicing schedule for main components

The following table indicates the suggested period for such service measures as cleaning,lubrication and replacement. In practice, the indicated periods will vary widely according to environmental and usage conditions.However, the indicated components should be inspected when a set is brought for service and the maintenance work performed if necessary. Also note that rubber parts may deform in time,even if the set is not used.

System	Parts Name	Operation Hours	
		~1000H	~2000H
Tape transport	Upper drum assembly	★○	○
	A/C head	★○	★○
	Lower drum assembly	★	★○
	Pinch roller arm assembly	★	★
	Full erase head	★	★
	Tension arm assembly	★	★
	Capstan motor (Shaft)	★	★
	Guide arm assembly	★	★
Drive	Capstan motor		○
	Capstan brake assembly		○
	Main brake assembly		○
	Belt (Capstan)	○	○
	Belt (Loading motor)		○
	Loading motor		○
	Clutch unit		○
	Worm gear		○
	Control plate		○
Other	Brush	★○	★○
	Tension brake assembly	○	○
	Rotary encoder		○

★: Cleaning

○: Inspection or Replacement if necessary

Table 2-1-3

2.2 REPLACEMENT OF MAJOR PARTS

2.2.1 Before Starting Disassembling (Phase matching between mechanical parts)

The mechanism of this unit is closely linked with the rotary encoder and system controller circuits.

Since the system controller detects the status of mechanical operation in response to phases of the rotary encoder (internal switch positions), the mechanism may not operate properly unless such parts as the rotary encoder, control plate, loading arm gear, control cam, cassette gear, limit gear, relay gear and drive gear are installed in their correct positions.

Especially, this model is not provided with any cassette housing assembly, so that cassette loading and unloading must be accomplished by operation of the cassette holder assembly. The latter is in turn driven by such parts as the drive gear, relay gear and limit gear. Exercise enough care, therefore, to have the phases of all this gear matching one another.

(For information on phase matching of the mechanism, see the instructions on how to install individual parts.)

This unit is provided with a mechanism assembly mode. It is therefore necessary to enter this mode for assembling and disassembling procedures.
This mode is usually not in use, manually set it when it is required.

2.2.2 How to Set the Mechanism Assembling Mode

Remove the mechanism assembly and place it bottom side up. (See SECTION 1 DISASSEMBLY.) Turn the worm gear toward the front so that the guide hole of the control cam is brought into alignment with the hole at the mechanism assembly chassis. This position renders the mechanism assembling mode operational. Make sure that the control plate is located in alignment with the mark E. (See Fig.2-2-1.)

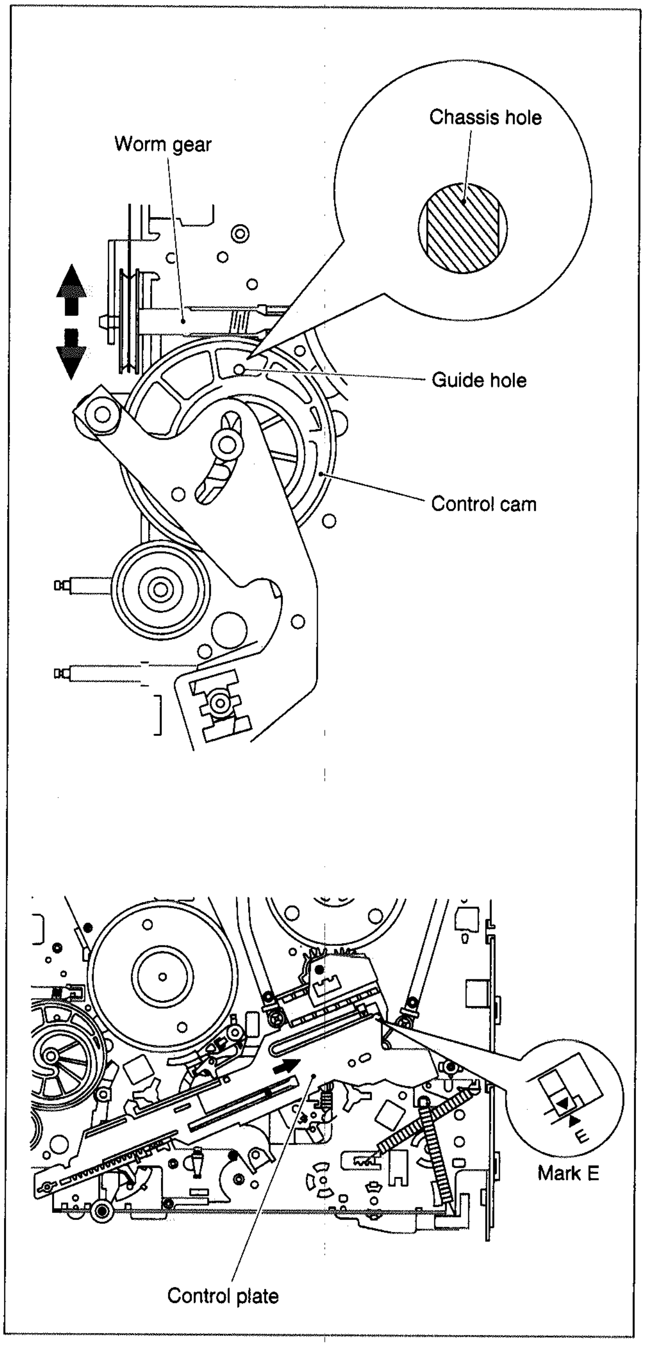

Chassis hole
Worm gear
Guide hole
Control cam
Mark E
E
Control plate

Fig. 2-2-1

2.2.3 Cassette Holder Assembly

1. How to remove

(1) Remove the guide rail and roller cam assembly. (See Fig.2-2-2.)
(3 lugs on the guide rail and one lug on the roller cam assembly)

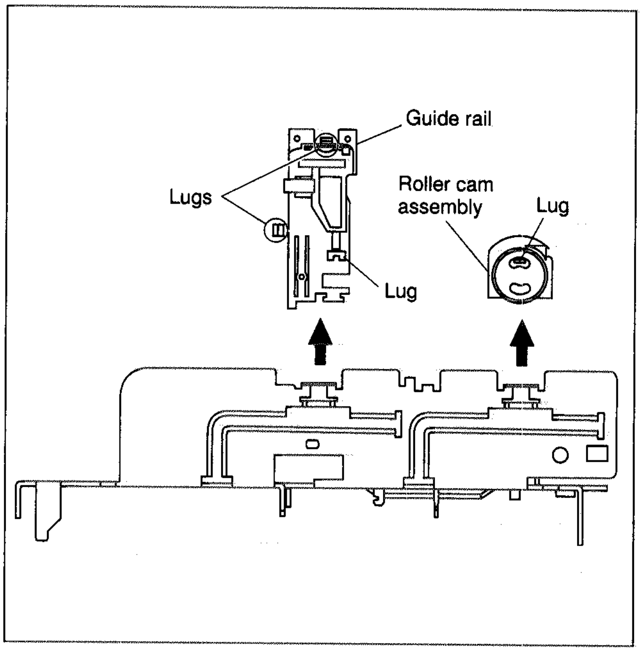

Guide rail
Lugs
Roller cam assembly
Lug
Lug

Fig. 2-2-2

(2) Remove the two slit washers and remove the cassette housing bracket. (See Fig.2-2-3.)
(3) Remove the opener guide, spring(A), door opener, relay gear and limit gear. (See Fig.2-2-3.)

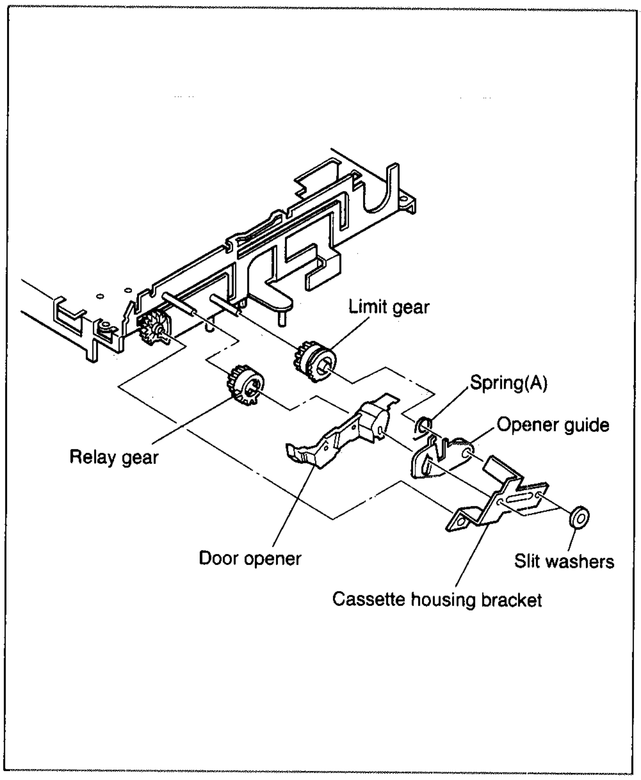

Limit gear
Spring(A)
Opener guide
Relay gear
Door opener
Slit washers
Cassette housing bracket

Fig. 2-2-3

(4) While swinging the lock levers (R) and (L) of the cassette holder assembly toward the front, slide the cassette holder assembly until its legs come to where the guide rail and the roller cam assembly have been removed (so that the drive arm is upright). (See Fig.2-2-4.)

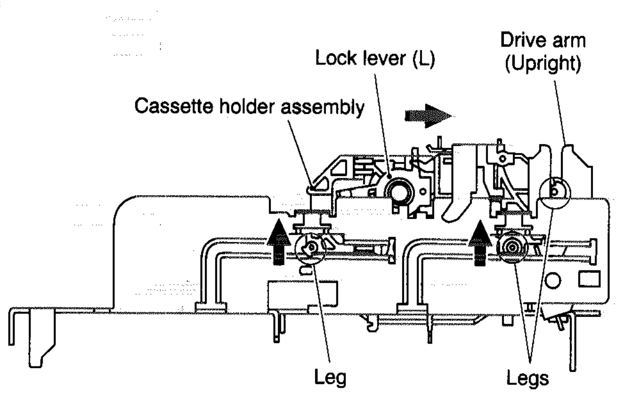

Drive arm
(Upright)
Lock lever (L)
Cassette holder assembly
Leg
Legs

Fig. 2-2-4

(5) While holding the left side of the cassette holder, lift the cassette holder assembly so that the three legs on the left side are all released. Then pull the legs Ⓐ and Ⓑ on the right side out of the rail and also pull up the leg Ⓒ. (See Fig.2-2-5 and Fig.2-2-6.)

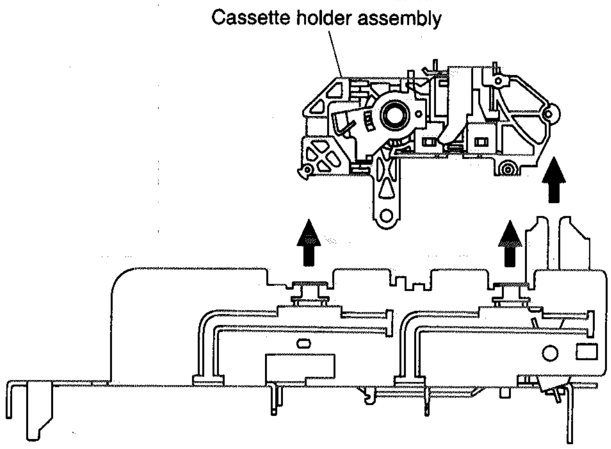

Cassette holder assembly

Fig. 2-2-5

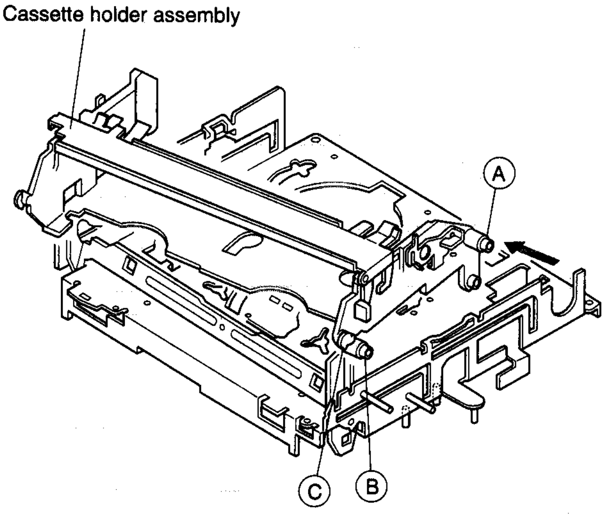

Cassette holder assembly
Ⓐ
Ⓒ
Ⓑ

Fig. 2-2-6

(6) Draw out the drive gear, and remove the drive arm.

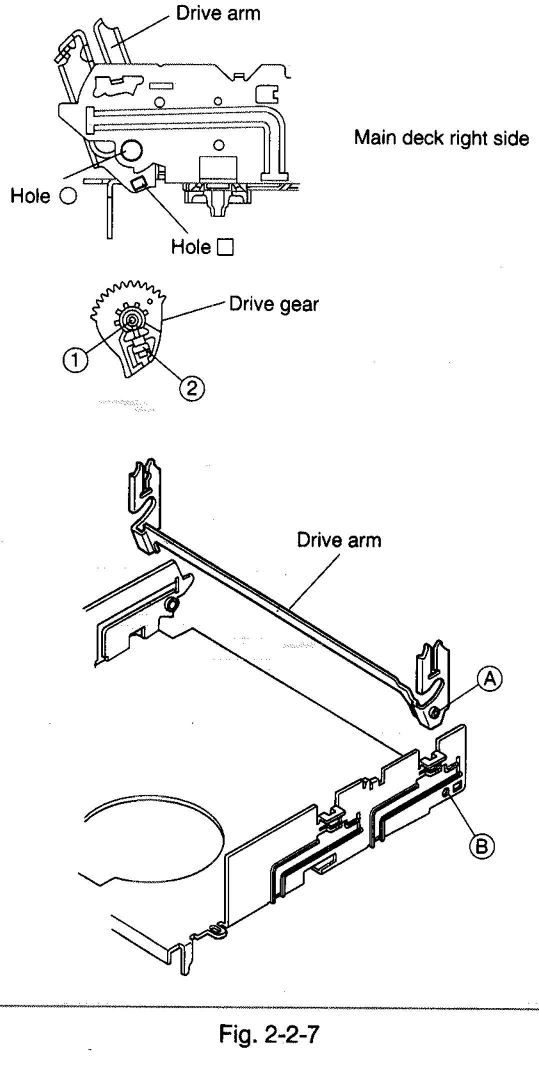

Drive arm
Main deck right side
Hole ○
Hole □
Drive gear
①
②
Drive arm
Ⓐ
Ⓑ

Fig. 2-2-7

2. How to install (Phase matching)

(1) Insert the section Ⓐ of the drive arm into the section Ⓑ of the main deck.

(2) Insert the section ① of the drive gear into the round hole, and the section ② into the square hole on the drive arm. (See Fig.2-2-7.)

(3) Hold the drive arm upright and fit the leg Ⓒ on the right side of the cassette holder assembly into the groove. (See Fig.2-2-8.)

(4) While swinging the lock lever (R) of the cassette holder assembly toward the front, put the legs Ⓐ and Ⓑ into the rail. (See Fig.2-2-8.)

(5) Drop the three legs on the left side of the cassette holder assembly into the groove at one time. (See Fig.2-2-9.)

(6) Slide the whole cassette holder assembly toward the front to bring it to the eject end position.

(7) Install the limit gear so that the notch on the outer circumference of the limit gear is brought into alignment with the guide hole on the main deck. (See Fig.2-2-10.)

(8) Install so that the notch on the periphery of the relay gear is aligned with the notch of the main deck and that hole A of the relay gear is aligned with the hole A of the limit gear and that hole B of the relay gear is aligned with the hole B of the drive gear. (See Fig.2-2-10.)

(9) Install the door opener, opener guide, spring(A) and cassette housing bracket and fasten the two slit washers.

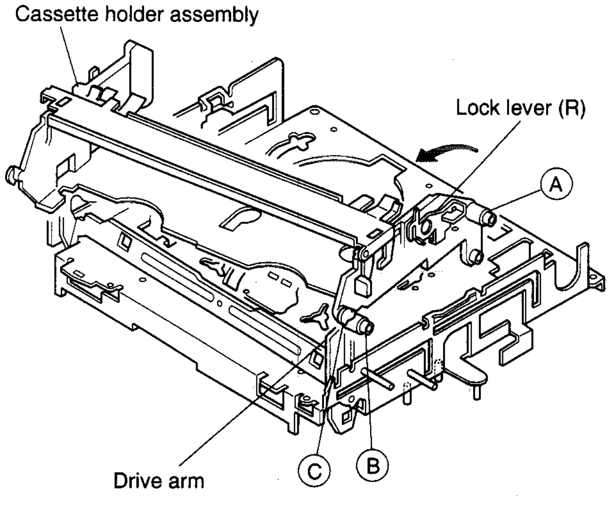

Cassette holder assembly
Lock lever (R)
A
Drive arm
C
B

Fig. 2-2-8

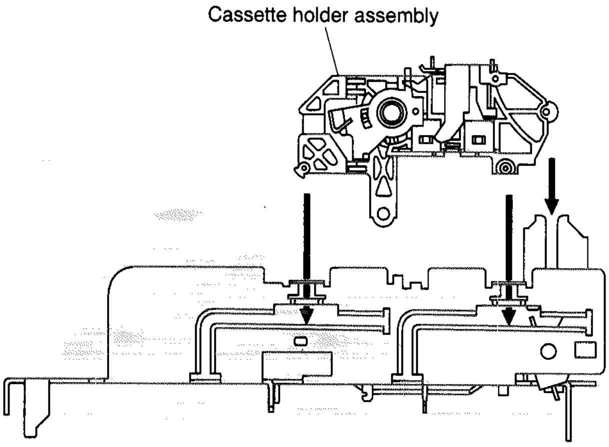

Cassette holder assembly

Fig. 2-2-9

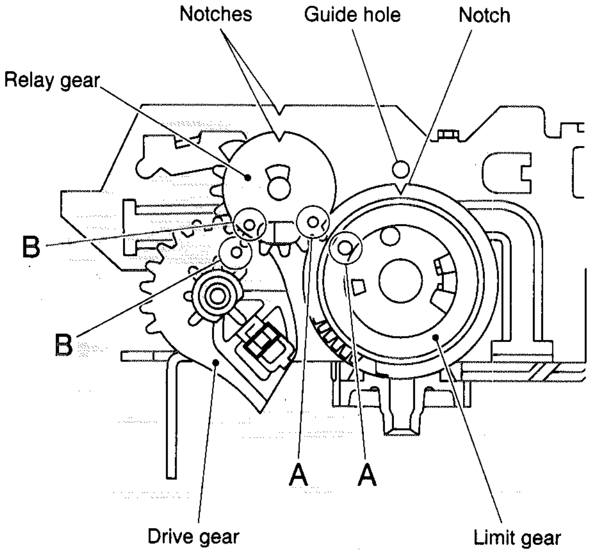

Notches
Guide hole
Notch
Relay gear
B
B
A
A
Drive gear
Limit gear

Fig. 2-2-10

2.2.4 Pinch Roller Arm Assembly

1. How to remove

(1) Remove the spring from the hook of the press lever assembly.

(2) Remove the slit washer and remove the pinch roller seat 2. (See Fig.2-2-11.)

(3) Remove the pinch roller arm assembly by pulling it up.

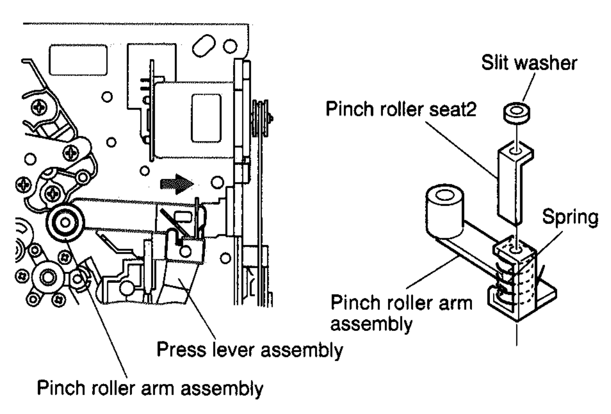

Slit washer
Pinch roller seat2
Spring
Pinch roller arm assembly
Press lever assembly
Pinch roller arm assembly

Fig. 2-2-11

2.2.5 Guide Arm Assembly and Press Lever Assembly

1. How to remove

(1) Remove the spring and expand the lug of the lid guide in the arrow-indicated direction. Then remove the guide arm assembly by pulling it up.

(2) Remove the press lever assembly by pulling it up. (See Fig.2-2-12.)

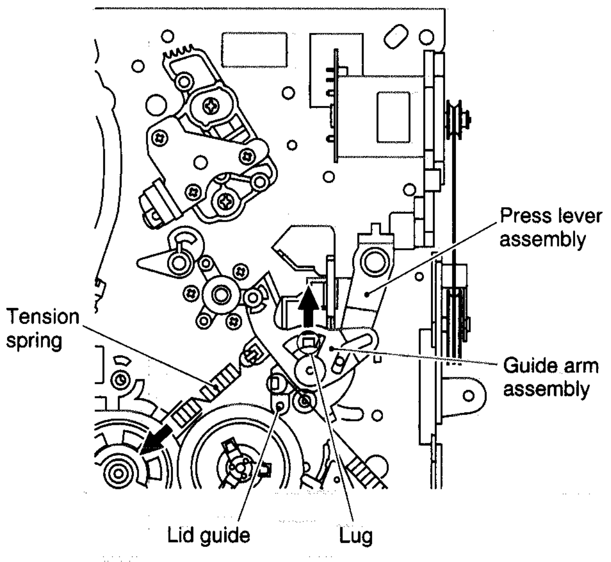

Press lever assembly
Tension spring
Guide arm assembly
Lid guide
Lug

Fig. 2-2-12

2.2.6 Audio Control Head

1. How to remove

(1) Remove the two screws (A) and remove the audio control head together with the head base.

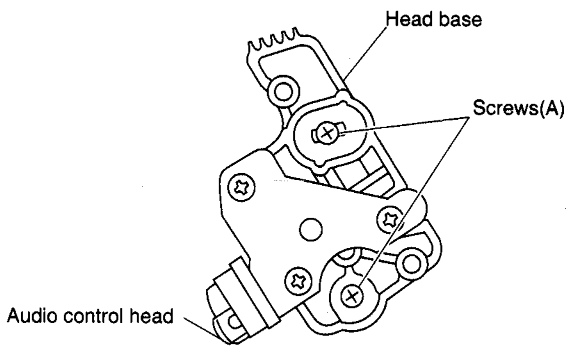

Head base
Screws(A)
Audio control head

Fig. 2-2-13

(2) When replacing only the audio control head, remove the three screws (B) while controlling the compression spring.

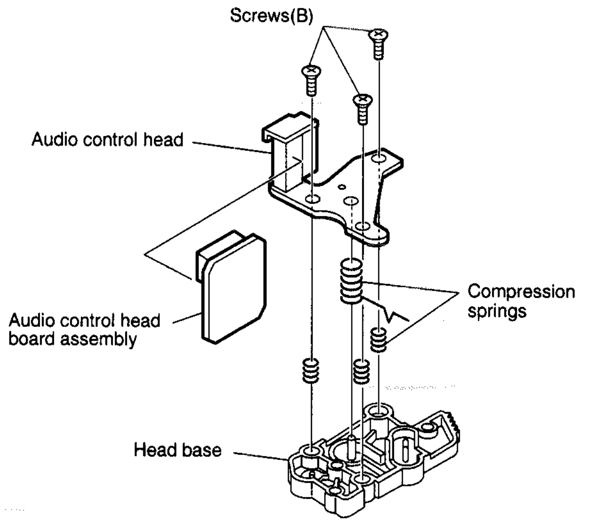

Screws(B)
Audio control head
Audio control head board assembly
Compression springs
Head base

Fig. 2-2-14

2. How to install

(1) To make the post-installation adjustment easier, set the temporary level as indicated in Fig.2-2-15. Also make sure that the screw center is brought into alignment with the center position of the slot.

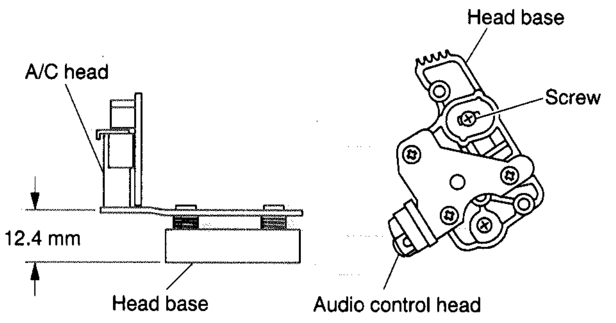

Head base
A/C head
Screw
12.4 mm
Head base
Audio control head

Fig. 2-2-15

2.2.7 Loading Motor

1. How to remove

(1) Remove the belt wound around the worm gear.
(2) Open the two lugs of the motor guide and remove the loading motor, loading motor board assembly and motor guide altogether by pulling them up.
(3) When replacing the loading motor board assembly, take care with the orientation of the loading motor. (Install so that the loading motor label faces upward.)
(4) When the motor pulley has been replaced, choose the fitting dimension as indicated in Fig.2-2-16.

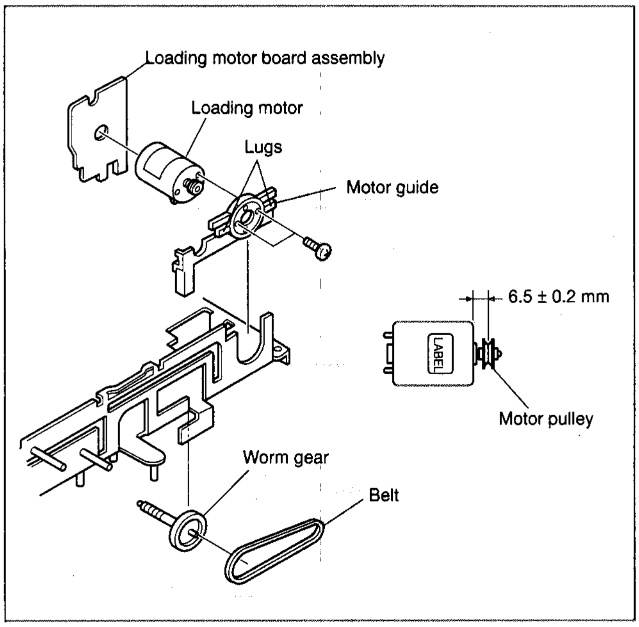


Fig. 2-2-16

2.2.8 Capstan Motor

1. How to remove

(1) Remove the belt (capstan) on the mechanism assembly back side.
(2) Remove the three screws (A) and remove the capstan motor.

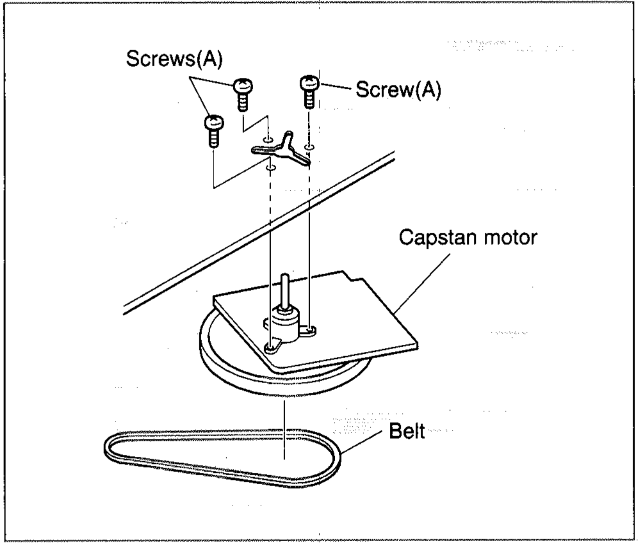


Fig. 2-2-17

2. How to install (Centering the mounting position)

When the capstan motor has once been removed and then reinstalled out of the initial correct position in the rotational direction, the capstan motor current may be unstable during operation in high or low temperatures. This may result in greater Wow & Flutter and occasionally in power breakdown because of current over - load. Install the capstan motor while following the procedure given below.
(The capstan motor is centrally located when the unit is shipped from the factory.)

(1) Provisionally tighten the three screws (A) securing the capstan motor.
(2) Install the mechanism assembly to which the capstan motor is provisionally fastened on the bottom chassis which incorporates the Main board assembly. (No need to tighten the screws for mounting the mechanism.)
Make sure that all the connectors for the mechanism assembly and the Main board assembly are correctly installed as indicated in Fig. 2-2-18.

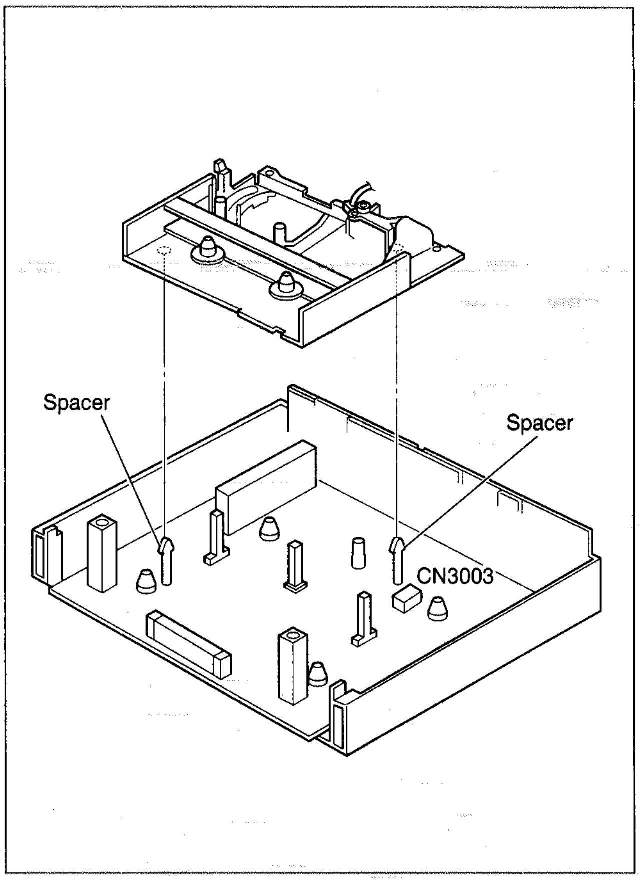


Fig. 2-2-18

(3) Making sure that the connector CN3003 of the capstan motor is correctly mounted, and securely tighten the three screws (A).

Note: ***When the capstan motor has been replaced with a new one, perform recording in the LP mode for at least 2 minutes at normal temperatures immediately before starting the FF/REW or SEARCH operations (Aging).***

2.2.9 Pole Base Assembly (supply or take-up side)

1. How to remove

(1) Remove the UV catcher 2 on the removal side by loosening the screw (A).

(2) Remove the pole base assembly on the supply side from the mechanism assembly by loosening the screw (B) on the mechanism assembly back side and sliding the pole base assembly toward the UV catcher 2.

(3) As for the pole base assembly on the take-up side, turn the pulley of the loading motor to lower the cassette holder because the screw (B) is hidden under the control plate. (See the "Procedures for Lowering the Cassette holder assembly" of 1.3 DISASSEMBLY/ASSEMBLY METHOD.) Further turn the motor pulley to move the cassette holder until the screw (B) is no longer under the control plate (in the half-loading position). Then remove it as done for the supply side by removing the screw (B).

NOTE: ***After reinstalling the Pole base assembly and the UV catcher2, be sure to perform compatibility adjustment.***

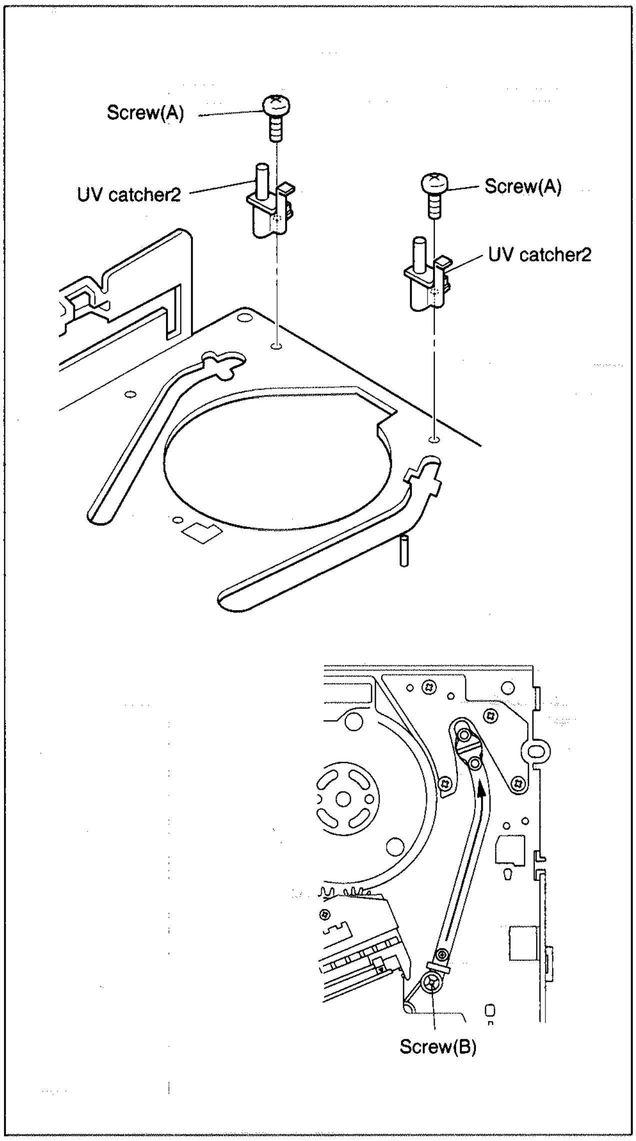

Screw(A)
UV catcher2
Screw(A)
UV catcher2
Screw(B)

Fig. 2-2-19

2.2.10 Rotary Encoder

1. How to remove

(1) Remove the screw (A) and remove the rotary encoder by pulling it up. (See Fig. 2-2-20.)

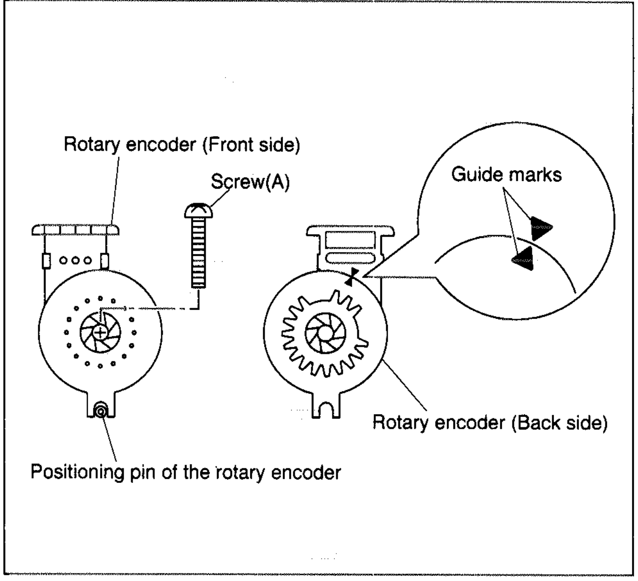

Rotary encoder (Front side)
Screw(A)
Guide marks
Rotary encoder (Back side)
Positioning pin of the rotary encoder

Fig. 2-2-20

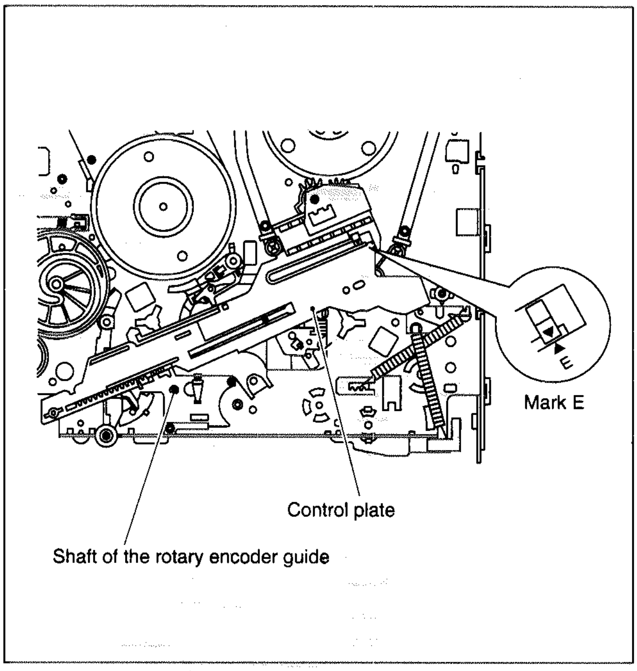

E
Mark E
Control plate
Shaft of the rotary encoder guide

Fig. 2-2-21

2. How to install (Phase matching)

(1) Make sure that the mark E of the control plate is in alignment with the mark ▼ of the loading arm gear shaft and bring the guide marks on the rotary encoder into alignment as indicated in Fig.2-2-20. (See Fig. 2-2-20 and Fig. 2-2-21.)

(2) Turn over the rotary encoder with its guide marks kept in alignment and install it by fitting on the shaft of the rotary encoder guide and the positioning pin.

(3) Tighten the screw (A) to complete the installation.

2.2.11 Clutch Unit

(1) Remove the belt wound around the capstan motor and the clutch unit.
(2) Remove the slit washer and remove the clutch unit.

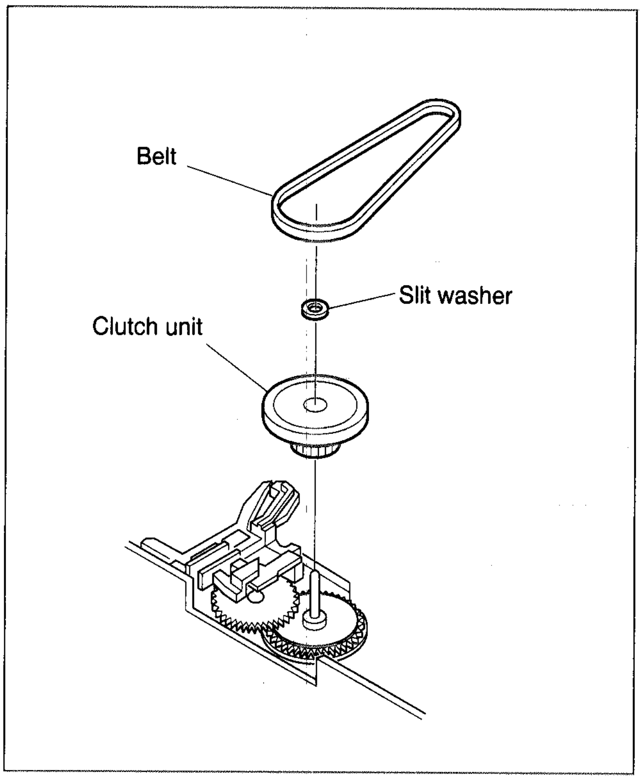

Belt
Slit washer
Clutch unit

Fig. 2-2-22

2.2.12 Change Lever Assembly, Direct Gear and Clutch Gear1

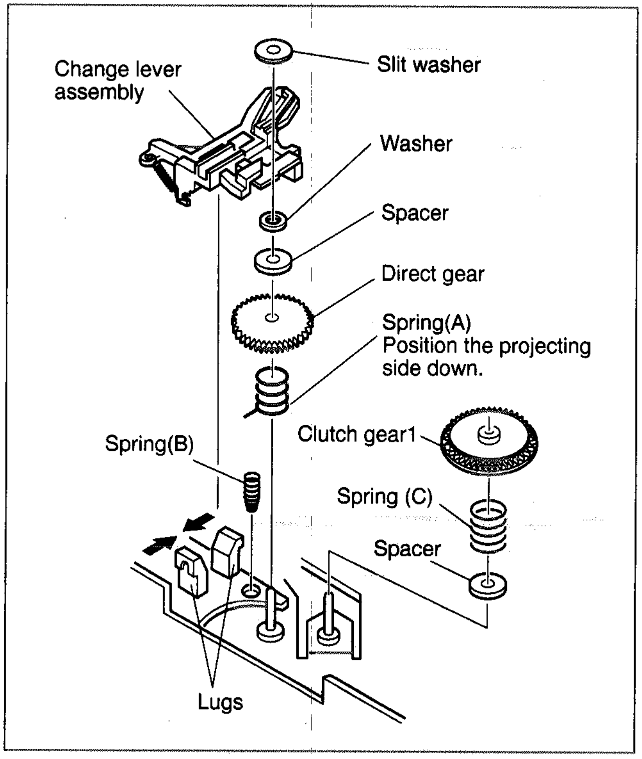

Change lever assembly
Slit washer
Washer
Spacer
Direct gear
Spring(A)
Position the projecting side down.
Spring(B)
Clutch gear1
Spring (C)
Spacer
Lugs

Fig. 2-2-23

1. How to remove

(1) Release the two lugs of the rotary encoder guide in the arrow-indicated direction and remove the change lever assembly.
(2) Remove the slit washer retaining the direct gear and remove the latter.
Take care so as not to lose the washer and spring. (See Fig.2-2-23.)

2. How to install

(1) Install the clutch gear1, spring (A), spring (C), direct gear, spacer and others to the individual shafts of the main deck, and finally the slit washer. (See Fig.2-2-23.)
(2) Let the spring (B) drops into the rotary encoder guide hole and install the change lever assembly.(Take care not to mistake a direction of the spring.) The point is to slightly lift the clutch gear1 and catch it from the both sides with the assembly. (See Fig.2-2-24.)

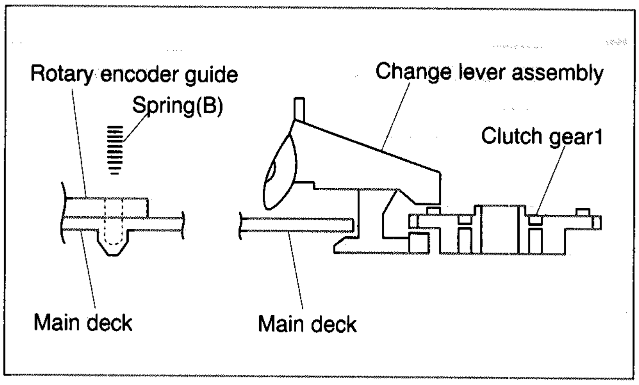

Rotary encoder guide
Spring(B)
Change lever assembly
Clutch gear1
Main deck
Main deck

Fig. 2-2-24

2.2.13 Link Lever

1. How to remove

(1) Remove the two slit washers.
(2) Remove the link lever by lifting it from the shaft retained by the slit washers. Then swing the link lever counterclockwise and remove it from the locking section of the control plate.

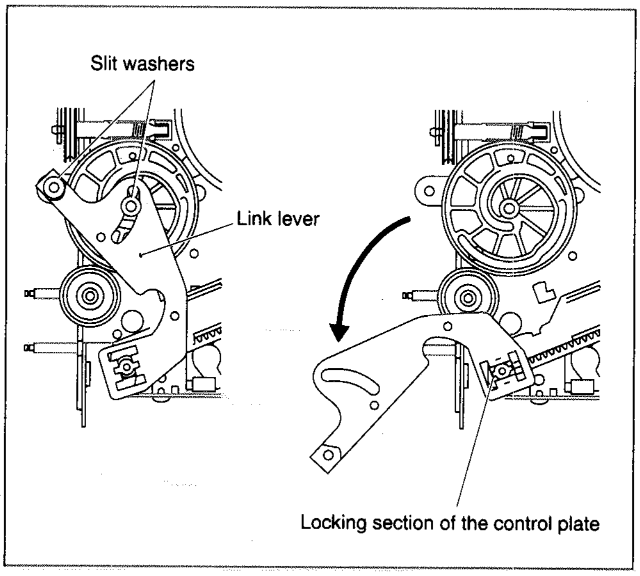

Slit washers
Link lever
Locking section of the control plate

Fig. 2-2-25

2. How to install (Phase matching)

1. Slide the control plate so that its mark E is aligned with the mark ▼ on the loading arm gear shaft. (See Fig.2-2-26.)
2. Rotate the worm gear until the guide hole of the control cam is aligned exactly with the guide hole of the main deck. (See Fig.2-2-27.)
3. Insert the link lever into the locking section of the control plate. (See Fig.2-2-25.)
4. Rotate the link lever clockwise so that it is installed on the shafts in the center and on the left of the control cam.
5. Fasten the slit washers at these two points.

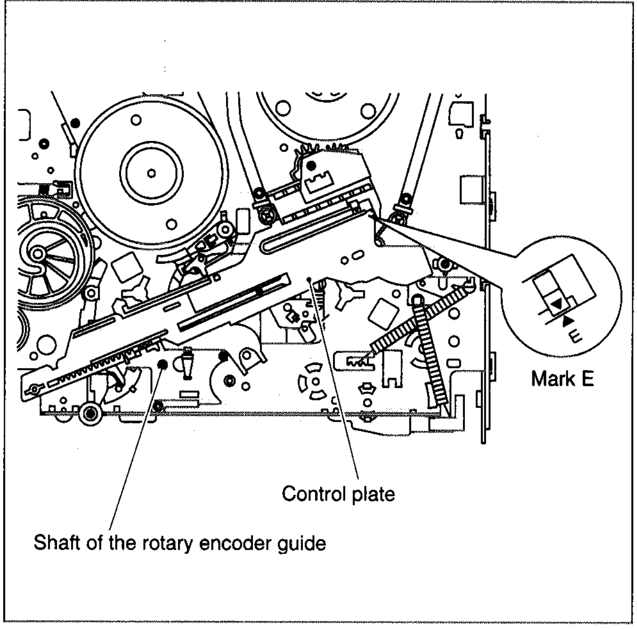

E
Mark E
Control plate
Shaft of the rotary encoder guide

Fig. 2-2-26

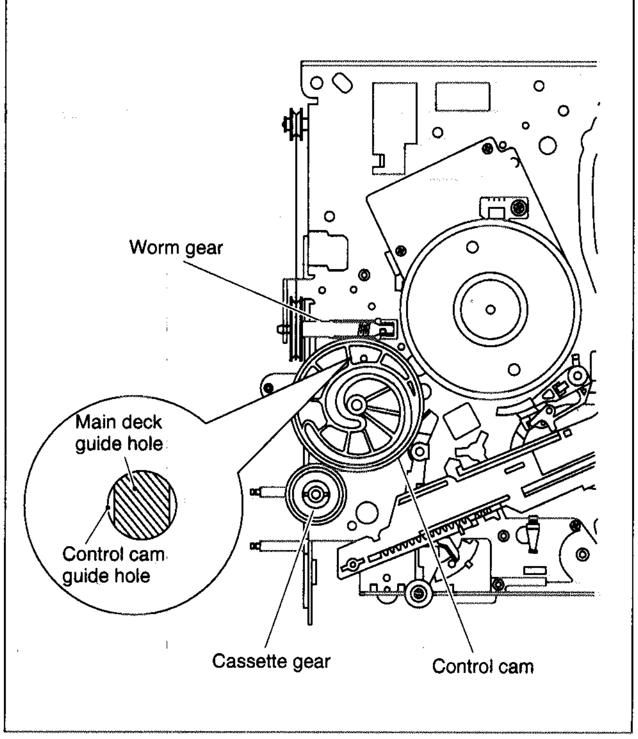

Worm gear
Main deck guide hole
Control cam guide hole
Cassette gear
Control cam

Fig. 2-2-27

2.2.14 Cassette Gear, Control Cam and Worm Gear

1. How to remove

1. Remove the control cam by lifting it.
2. Open the two lugs of the cassette gear outward and pull the latter off.
3. Remove the belt wound around the worm gear and the loading motor.
4. Open the lug of the lid guide outward and remove the worm gear.

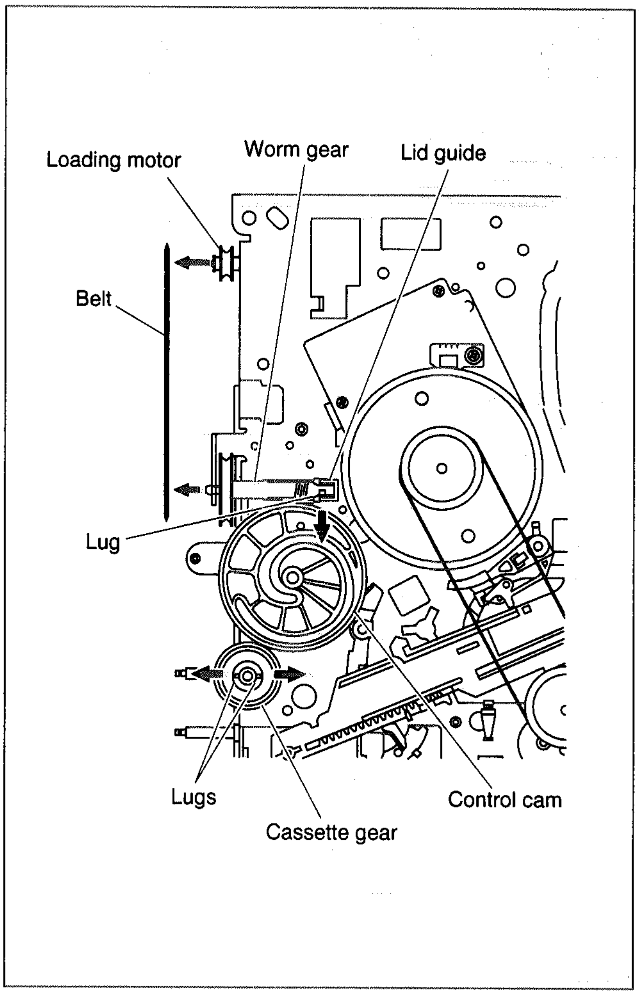

Loading motor
Worm gear
Lid guide
Belt
Lug
Lugs
Cassette gear
Control cam

Fig. 2-2-28

2.2.15 Control Plate

1. How to remove

1. Remove the screw (A) retaining the control bracket 1 and remove the latter.
2. Slide the control plate as indicated by the arrow and remove the control plate. (See Fig.2-2-29.)

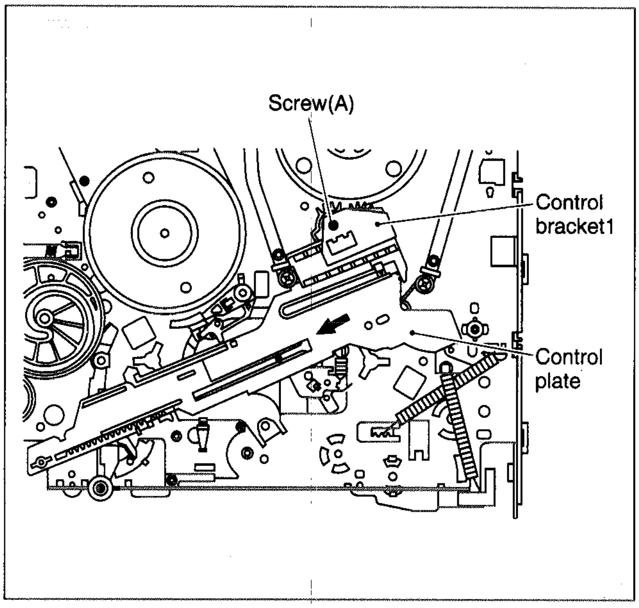

Screw(A)
Control bracket1
Control plate

Fig. 2-2-29

2. How to install (Phase matching)

(1) Adjust the position of the idler arm assembly pin as indicated in Fig.2-2-30 (to the left of centre of the R section).

(2) Bring the guide hole of the take-up lever into alignment with the hole at the control plate guide and fix the position by inserting a 1.5 mm hexagonal wrench.

(3) Install the control plate so that the section A of the loading arm gear shaft fits into the hole (A) of the control plate, the section B of the control plate guide into the hole (B), and the control plate comes under the section C of the rotary encoder guide and the section D of the loading arm gear shaft while press-fit the pole base assmebly (supply side) as indicated by the arrow. It is important that the tension arm assembly shaft is positioned closer toward you than the control plate. (See Fig.2-2-31.)

(4) Make sure that the mark E of the control plate is in alignment with the mark ▼ of the loading arm gear shaft. (See Fig.2-2-31.)

(5) Pull off the hexagonal wrench for positioning.

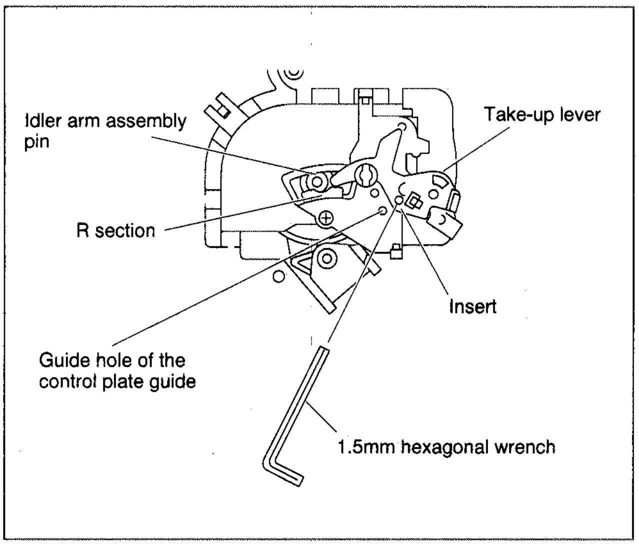

Idler arm assembly pin
Take-up lever
R section
Insert
Guide hole of the control plate guide
1.5mm hexagonal wrench

Fig. 2-2-30

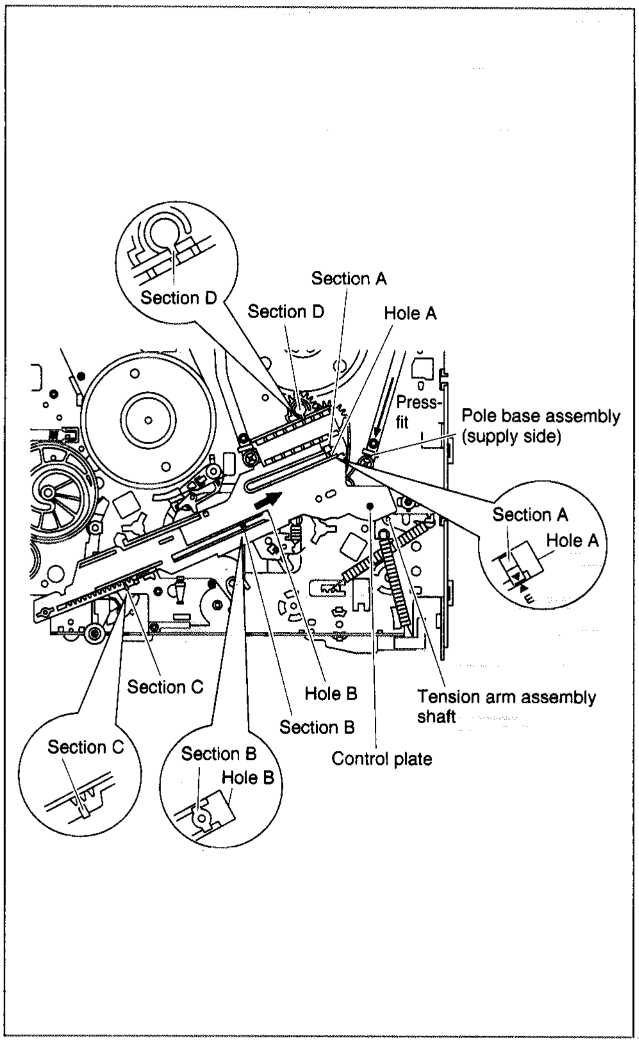

Section D
Section A
Section D
Hole A
Press-fit
Pole base assembly (supply side)
Section A
Hole A
E
Section C
Hole B
Tension arm assembly shaft
Section B
Section C
Section B
Hole B
Control plate

Fig. 2-2-31

2.2.16 Loading Arm Gear (supply or take-up side) and Loading Arm Gear Shaft

1. How to remove

(1) Remove the loading arm gear (supply side) by loosening the screw (A). (See Fig. 2-2-32.)

(2) Remove the screw (B) and remove the torsion arm from the pole base assembly (take-up side). (See Fig.2-2-32.)

(3) Turn the loading arm gear (take-up side) clockwise so that the notch of the loading arm gear (take-up side) is in alignment with the projection of the loading arm gear shaft and lift it.
Likewise, turn the loading arm counterclockwise so that the notch is in alignment with the projection and remove the loading arm gear (take-up side). (See Fig.2-2-32 and Fig. 2-2-33.)

(4) When removing the loading arm gear shaft, be sure of first removing the screw retaining the drum assembly (on the back side of the loading arm gear shaft). Then remove the screw (C) and remove the loading arm gear shaft by sliding it.

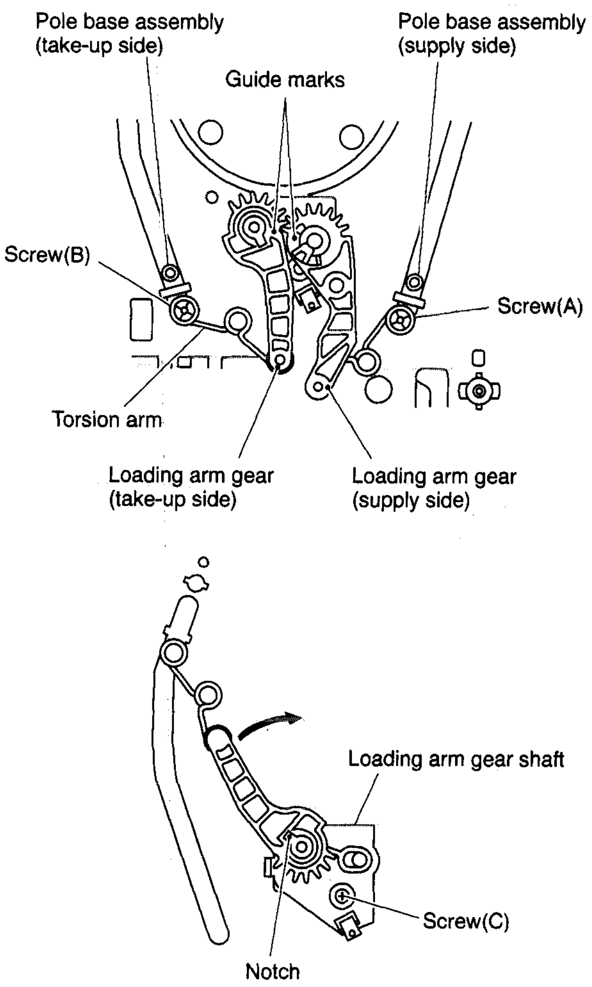

Pole base assembly (take-up side)
Pole base assembly (supply side)
Guide marks
Screw(B)
Screw(A)
Torsion arm
Loading arm gear (take-up side)
Loading arm gear (supply side)
Loading arm gear shaft
Screw(C)
Notch

Fig. 2-2-32

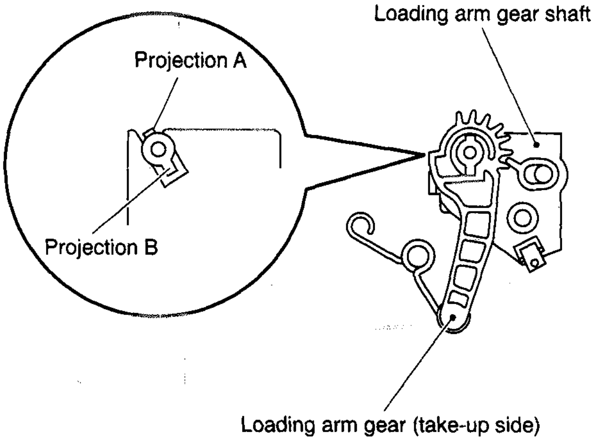

Loading arm gear shaft
Projection A
Projection B
Loading arm gear (take-up side)

Fig. 2-2-33

2. How to install

(1) Align the notch of the loading arm gear (take-up side) to the projection B of the loading arm gear shaft and slip it over. Then rotate it clockwise for alignment with the projection A and slip it down to the bottom. (See Fig.2-2-33.)

(2) Then turn the loading arm gear (take-up side) counterclockwise. Hang the torsion arm on the pole base assembly (take-up side) and tighten the screw (B).

(3) Install the loading arm gear (supply side) so that the guide mark of the loading arm gear (take-up side) is in alignment with the guide mark of the loading arm gear (supply side). Then hang the torsion arm on the pole base assembly (supply side) and tighten the screw (A). (See Fig.2-2-32.)

2.2.17 Take-up Lever, Take-up Head and Control Plate Guide

(1) Remove the spring of the take-up lever from the main deck.

(2) Remove the lug (A) of the take-up lever from the main deck and pull out the take-up lever and the take-up head together.

(3) Remove the screw (A).

(4) Align the idler arm assembly pin in the center of the R section of the control plate guide, remove the control plate guide lugs (B) and (C) from the main deck, and remove the control plate guide.

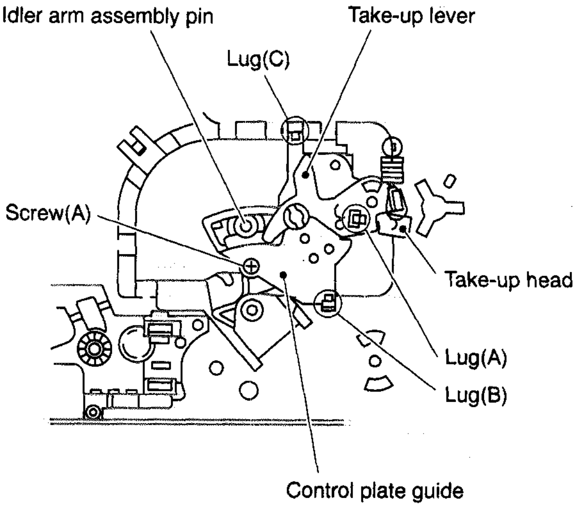

Idler arm assembly pin
Take-up lever
Lug(C)
Screw(A)
Take-up head
Lug(A)
Lug(B)
Control plate guide

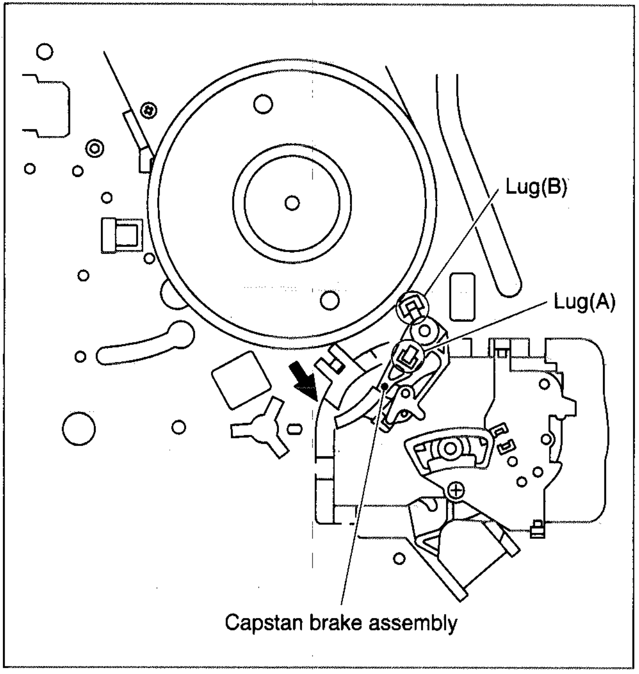
Fig. 2-2-34

2.2.18 Capstan Brake Assembly

1. How to remove

(1) Move the lug (A) of the capstan brake assembly in the arrow-indicated direction so that it comes into alignment with the notch of the main deck. (See Fig. 2-2-35.)

(2) Remove the lug (B) of the capstan brake assembly from the main deck and remove the capstan brake assembly.



Lug(B)
Lug(A)
Capstan brake assembly

Fig. 2-2-35

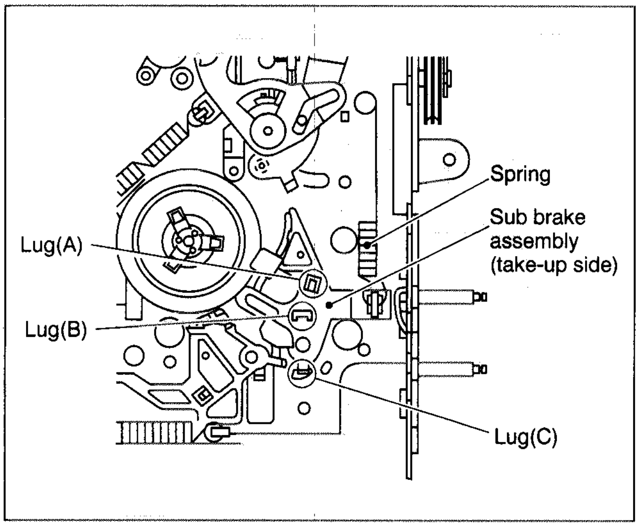
2.2.19 Sub Brake Assembly (take-up side)

1. How to remove

(1) Remove the spring attached to the lid guide and sub brake assembly (take-up side).

(2) Bring the lug (A) of the sub brake assembly (take-up side) into alignment with the notch of the main deck.

(3) Remove the lugs (B) and (C) of the sub brake assembly (take-up side) from the main deck and remove the sub brake assembly (take-up side).



Spring
Sub brake assembly (take-up side)
Lug(A)
Lug(B)
Lug(C)

Fig. 2-2-36

2.2.20 Main Brake Assembly (take-up side), Reel Disk (take-up side) and Main Brake Assembly (supply side)

1. How to remove

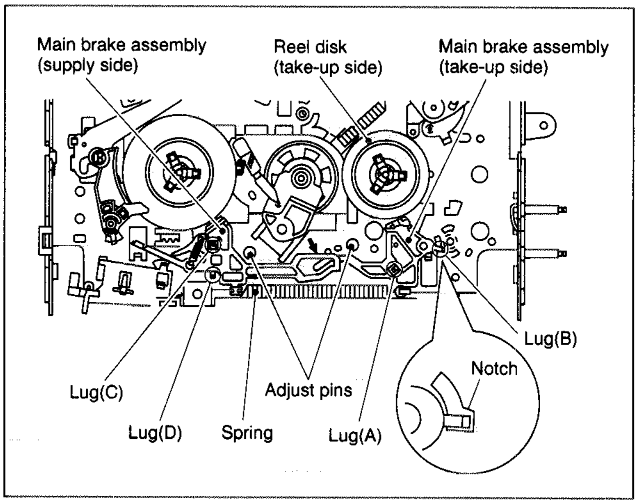
(1) Move the main brake assembly (take-up side) in the arrow-indicated direction and remove the reel disk (take-up side).

(2) Remove the spring attached to the main brake assembly.

(3) Remove the lug (A) of the main brake assembly (take-up side) and pull out the lug (B) after bringing it into alignment with the main deck notch.

(4) Remove the lugs (C), (D) and (E) of the main brake assembly (supply side) from the main deck and pull them off. (See Fig.2-2-37.)

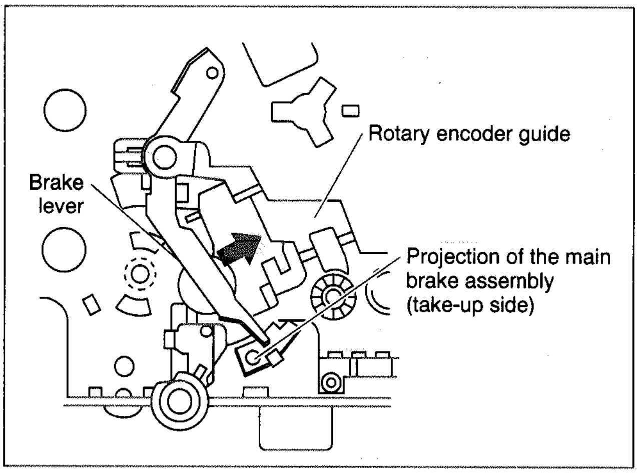
Note: *If the main brake assembly is difficult to remove, press it and hold the adjustment pin from the back side of the main deck when attempting to remove it.*
After the adjustment pin has been removed or the main brake assembly or the reel disk on the supply or take-up side have been replaced, it is required to adjust the main brake assembly torque. See page 2-23 for the detailed adjustment procedures.



Main brake assembly (supply side)
Reel disk (take-up side)
Main brake assembly (take-up side)
Lug(B)
Notch
Lug(C)
Adjust pins
Lug(D)
Spring
Lug(A)

Fig. 2-2-37

(5) When installing the main brake assembly (take-up side), slide the brake lever in the direction as indicated by the arrow to prevent it from hitting the projection of the main brake assembly (take-up side). (See Fig.2-2-38.)



Rotary encoder guide
Brake lever
Projection of the main brake assembly (take-up side)

Fig. 2-2-38

2.2.21 Tension Brake Assembly, Reel Disk (supply side) and Tension Arm Assembly

1. How to remove

(1) Remove the three lugs of the tension brake assembly from the main deck and pull them off.

(2) Remove the reel disk (supply side) by loosening in the arrow-indicated direction the main brake assembly (supply side).

(3) Remove the tension spring on the back of the main deck. Then release the lug of the tension arm bearing in the arrow-indicated direction and draw out the tension arm assembly. (See Fig. 2-2-39.)

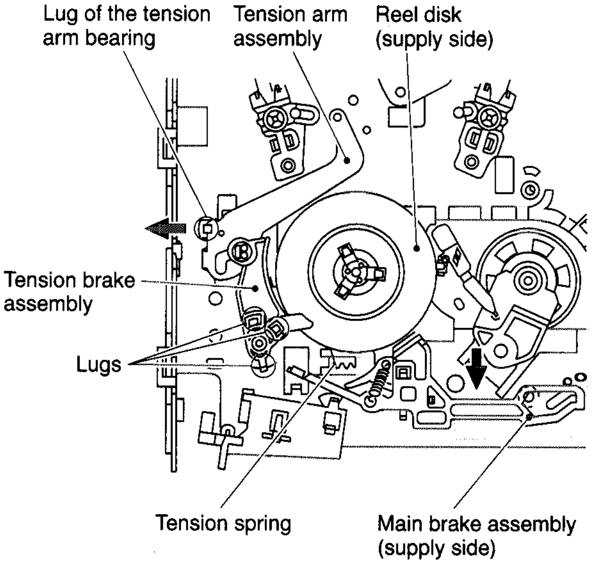

Lug of the tension arm bearing
Tension arm assembly
Reel disk (supply side)
Tension brake assembly
Lugs
Tension spring
Main brake assembly (supply side)

Fig. 2-2-39

2.2.22 Idler Lever, Idler Arm Assembly

1. How to remove

(1) Remove the lug of the idler lever from the main deck and remove the hook fitted in the idler arm assembly hole by lifting it.

(2) Remove the slit washer and pull out the idler arm assembly.

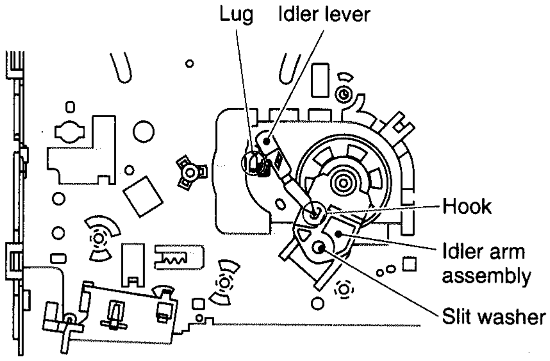

Lug
Idler lever
Hook
Idler arm assembly
Slit washer

Fig. 2-2-40

2.2.23 Stator Assembly

(1) Remove the flat cable.

(2) Remove the two screws (A).

(3) Remove the stator assembly by lifting in the arrow-indicated direction. (Take care that the brush spring does not jump out.)

(4) After installation, be sure to perform the PB switching point adjustment according to the electrical adjustment procedure.

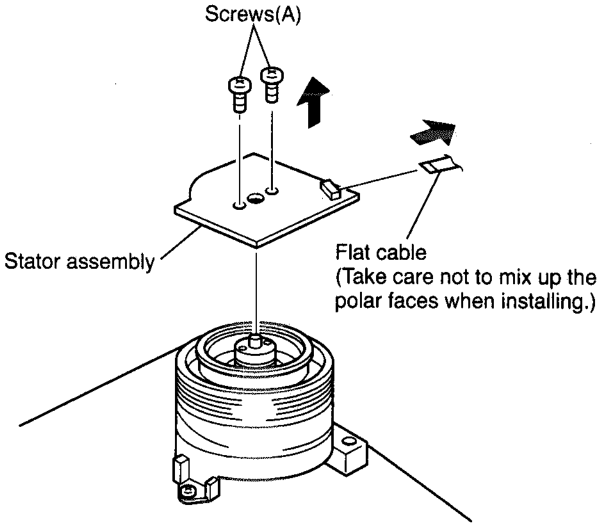

Screws(A)
Stator assembly
Flat cable
(Take care not to mix up the polar faces when installing.)

Fig. 2-2-41

2.2.24 Rotor Assembly

(1) Remove the stator assembly.
(2) Remove the two screws (B) and remove the rotor assembly.

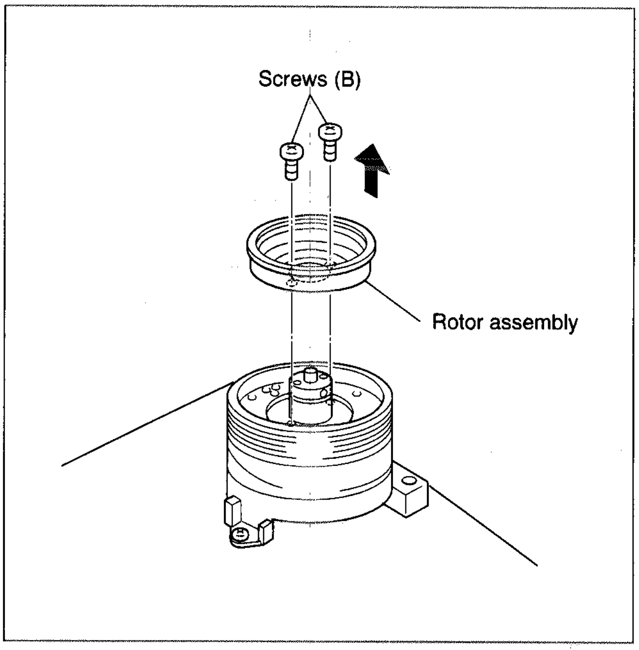

Screws (B)
Rotor assembly

Fig. 2-2-42

Note: *When installing the rotor assembly, note that a normal picture cannot be obtained without ensuring the phase matching as mentioned below.*

(3) Match the phases of the upper drum assembly and the rotor assembly as indicated in Fig.2-2-43.
(4) Place the upper drum assembly hole (a) over the rotor assembly holes (b) (with three holes to be aligned) and tighten the two screws (B). (See Fig.2-2-43.)

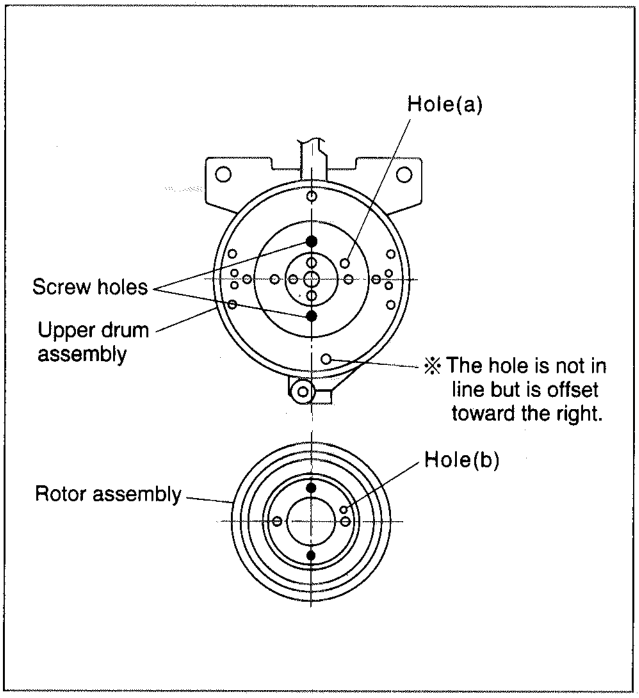

Hole(a)
Screw holes
Upper drum assembly
※The hole is not in line but is offset toward the right.
Hole(b)
Rotor assembly

Fig. 2-2-43

2.2.25 Upper Drum Assembly

1. How to remove

(1) Remove the stator assembly and rotor assembly.
(2) Loosen the screw of the collar assembly using a 1.5 mm hexagonal wrench and remove the collar assembly. Also remove the brush, spring and cap at one time.
(3) Remove the upper drum assembly and remove the washer using tweezers.

Note: *When replacement is required, control the up-down movement of the brush. Never apply grease.*

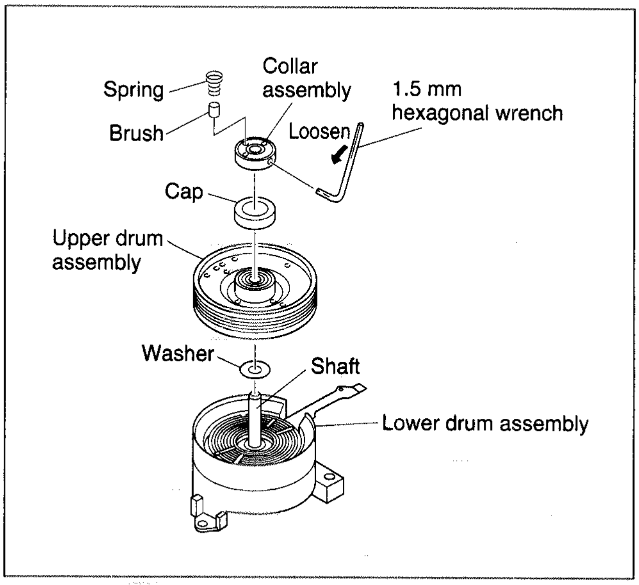

Spring
Collar assembly
1.5 mm hexagonal wrench
Brush
Loosen
Cap
Upper drum assembly
Washer
Shaft
Lower drum assembly

Fig. 2-2-44

2. How to install

(1) Clean the coil parts of the lower drum assembly and the newly installed upper drum assembly with an air brush in advance. (See Fig.2-2-45.)
(2) Install a new washer and upper drum assembly on the drum shaft. (See Fig.2-2-44.)

Note: *When replacing the upper drum assembly, replace it the together with the washer.*

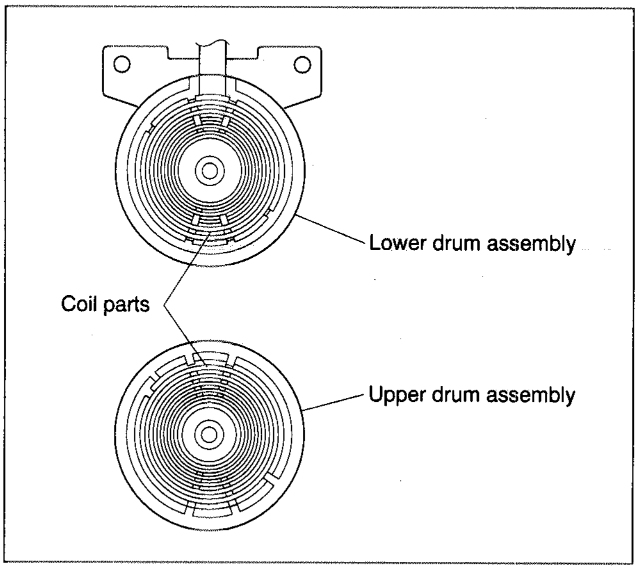

Lower drum assembly
Coil parts
Upper drum assembly

Fig. 2-2-45

(3) Install the cap to the upper drum assembly.
(4) Position the collar assembly as indicated in Fig.2-2-46 while controlling its up- down movement.

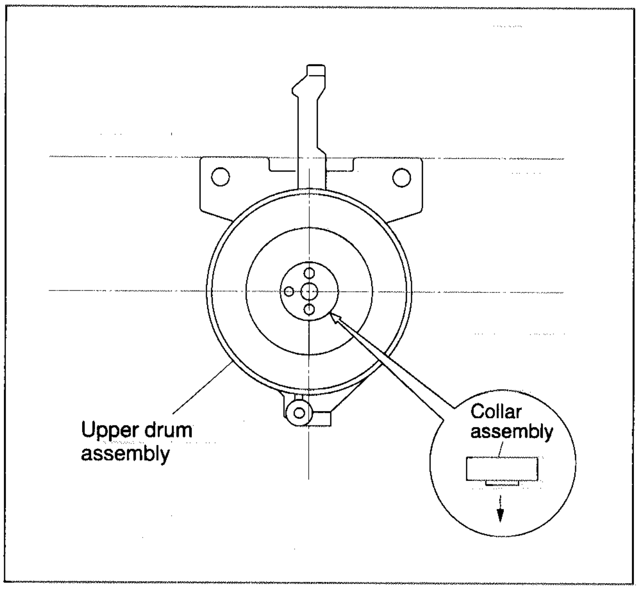


Fig. 2-2-46

(5) Secure the collar assembly in position with a hexagonal wrench while pressing its top with the fingers.

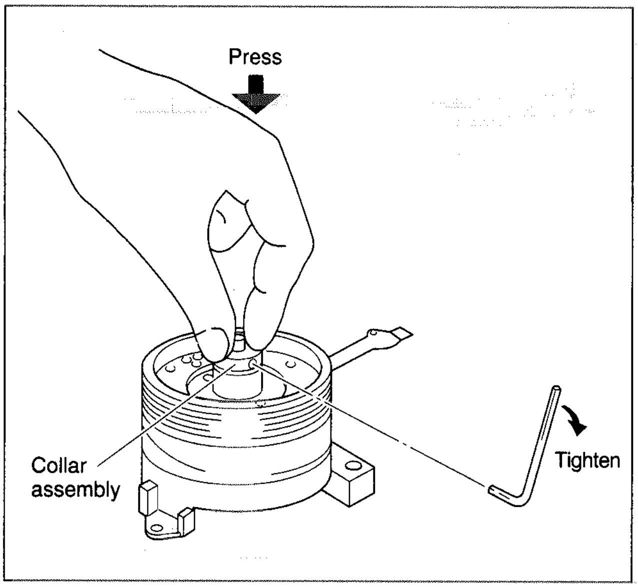


Fig. 2-2-47

(6) After installation, gently turn the upper drum assembly with your hand to make sure that it turns normally. Then install the brush and the spring.
(7) Install the rotor assembly and stator assembly according to Fig 2-2-41 and 2-2-42.
(8) When installation is complete, clean the upper drum assembly and lower drum assembly and carry out the following adjustments.

- PB switching point adjustment
- Slow tracking adjustment
- Compatibility adjustment (Be sure to check for compatibility for the LP mode.)

2.3 COMPATIBILITY ADJUSTMENT

Notes: • *Although compatibility adjustment is very important, it is not necessary to perform this as part of the normal servicing work. It will be required when you have replaced the audio control head, drum assembly or any part of the tape transport system.*

• *To avoid any damage to the alignment tape while performing the compatibility adjustment, get a separate cassette tape (for recording and play back) ready to be used for checking the initial tape running behavior.*

2.3.1 Checking/Adjustment of FM Waveform Linearity

(1) Connect the oscilloscope to TP106(V. PB FM) of the main board assembly and to TP111(D.FF) of the main board assembly for external sync connection.
(2) Playing the alignment tape MHPE, observe the FM waveform.
(3) Press the channel buttons (▲, ▼) simultaneously during playback to enter the manual tracking mode. (This also brings tracking to the centre.)
(4) Make sure that there is no significant level drop of the FM waveform caused by the tracking operation, with its generally parallel and linear variation ensured. Perform the following adjustments when required. (See Fig.2-3-1.)
(5) Reduce the FM waveform while pressing the channel buttons (▲, ▼) during playback. If a drop in level is found on the left side, turn the guide roller of the pole base assembly (supply side) with the roller driver (PTU94002) to make the FM waveform linear.
If a drop in level is on the right side, likewise turn the guide roller of the pole base assembly (take-up side) with the guide roller to make it linear. (See Fig.2-3-3.)
(6) Then play MHPE-L and make sure that the FM waveform varies in parallel and linearly with the tracking operation. When required, perform fine-adjustment of the guide roller of the pole base assembly (supply or take-up side).
(7) Unload the cassette tape once, play the alignment tape MHPE-L again and confirm the FM waveform.

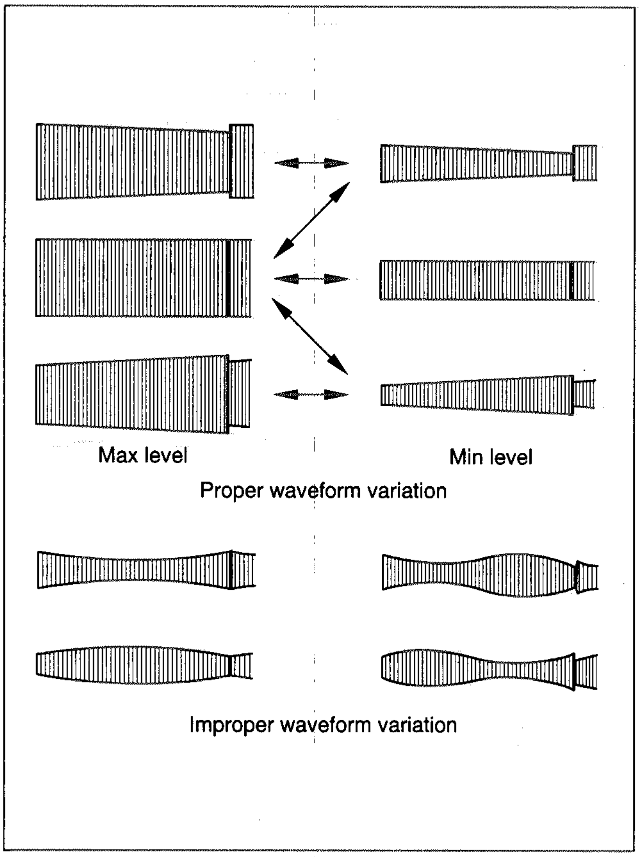

Max level
Min level
Proper waveform variation
Improper waveform variation

Fig. 2-3-1

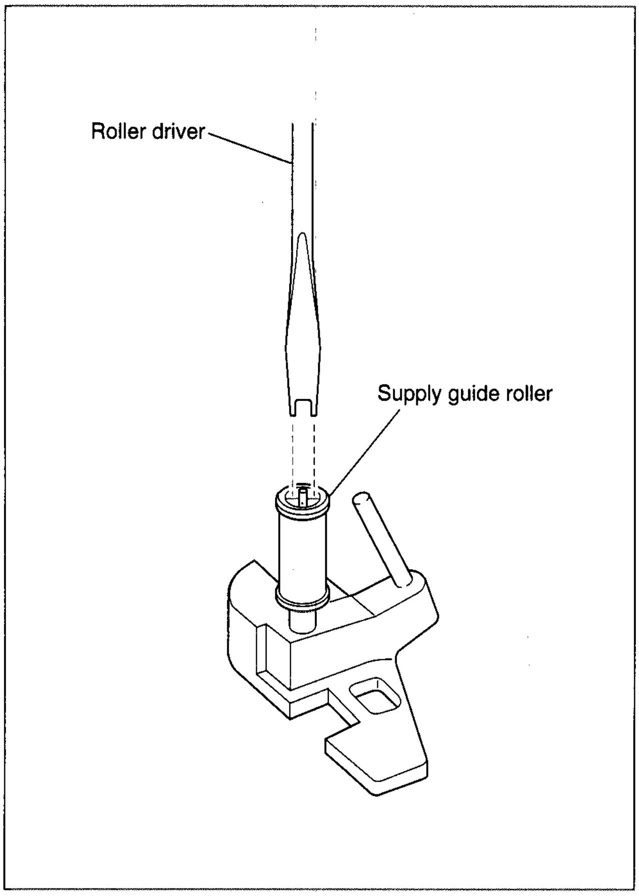

Roller driver
Supply guide roller

Fig. 2-3-2

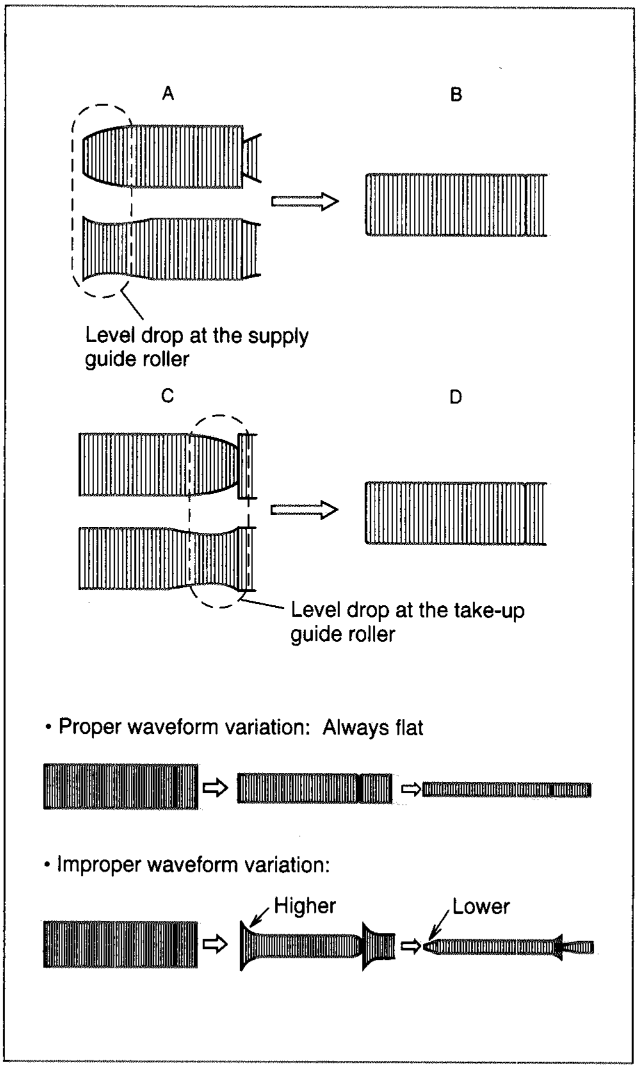

A
B
Level drop at the supply guide roller
C
D
Level drop at the take-up guide roller
• Proper waveform variation: Always flat
• Improper waveform variation:
Higher
Lower

Fig. 2-3-3

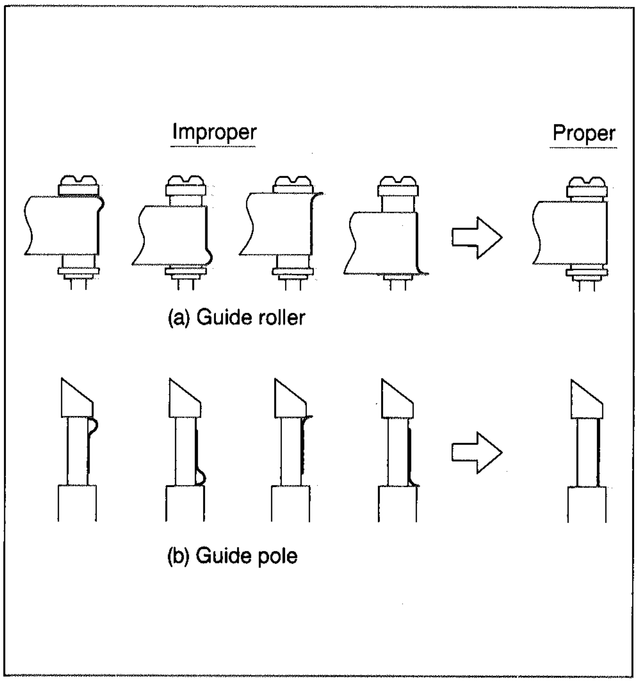

Improper
Proper
(a) Guide roller
(b) Guide pole

Fig. 2-3-4

2.3.2 Checking/Adjustment of the Height and Tilt of the Audio Control Head

Note: ***Set a temporary level of the height of the A/C head in advance to make the adjustment easier after the A/C head has been replaced. (See Fig.2-2-15.)***

(1) Connect CH-1 of the oscilloscope to AUDIO OUT and CH-2 to TP4001 (CTL.P) of the main board assembly and observe the waveforms on both channels in the ALT mode.

(2) Play the alignment tape MHPE and adjust it by turning the screws (1), (2) and (3) little by little until the waveform of both the audio output signal and the control pulse reach maximum. The screw (1) and screw (3) are for adjustment of tilt and screw (2) for azimuth.

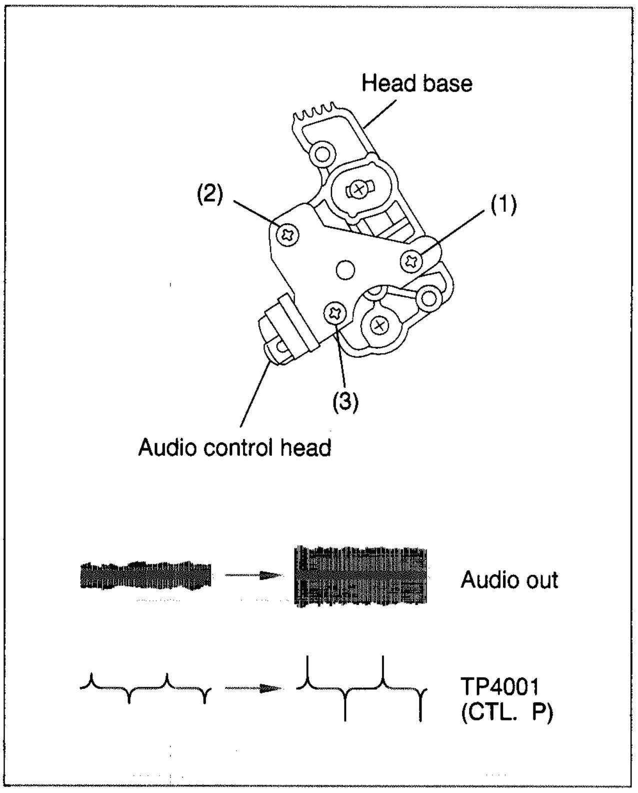


Fig. 2-3-5

2.3.3 Checking/Adjustment of the Audio Control Head Phase (X-Value)

(1) Connect the oscilloscope to TP106(V. PB FM) of the main board assembly and to TP111(D.FF) of the main board assembly for external sync connection.

(2) Play the alignment tape MHPE and observe the FM waveforms.

(3) Press the channel buttons (▲, ▼) simultaneously during playback to enter the manual tracking mode. (This also brings tracking to the centre.)

(4) Loosen screws (4) and (5) so that the A/C head position bit (PTU94010) is set as indicated in Fig.2-3-6.

(5) Turn the A/C head position bit fully toward the capstan. Then turn it back gradually toward the drum and stop on the second peak point position of the FM waveform output level. Then tighten the screw (4) temporarily.

(6) Then play the alignment tape MHPE-L.

(7) Press the channel buttons (▲, ▼) simultaneously during playback to enter the manual tracking mode. (This also brings the tracking to the centre.)

(8) Perform the tracking operation and make sure that the FM waveform is at its maximum.

(9) If it is not at maximum, loosen the temporarily tightened the screw (4) and turn the A/C head position bit to bring the audio control head to a position, around where the waveform reaches its maximum for the first time. Then tighten the screws (4) and (5).

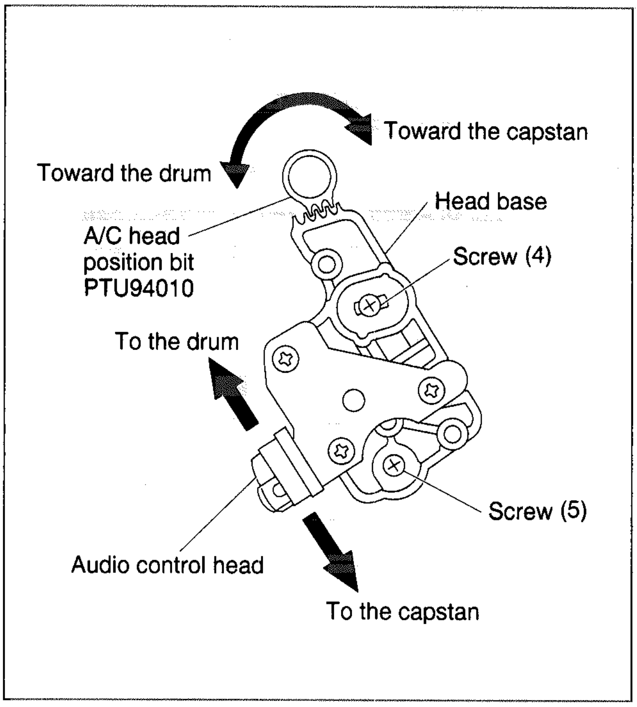


Fig. 2-3-6

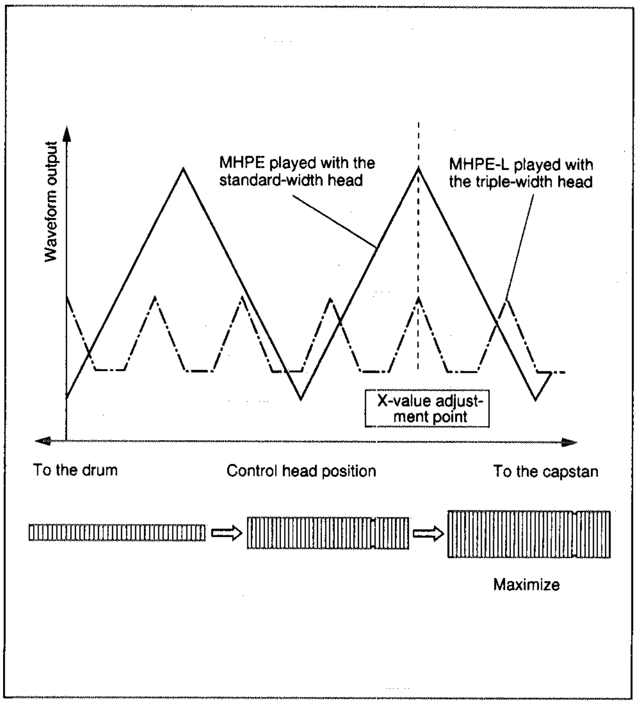


Fig. 2-3-7

2.3.4 Checking/Adjustment of the Standard Tracking Preset

Note: *Set the remote control code of the video recorder to A mode.*
(The unit set in B mode does not accept the remote control code of the presetting unit.)

(1) Connect the oscilloscope to TP106(V. PB FM) of the main board assembly and to TP111(D.FF) of the main board assembly for external sync connection.
(2) Playing the alignment tape MHPE-L and observing the FM waveform, make sure that the auto tracking operation is complete.
(3) Press the "D" button of the presetting unit twice.
(4) Make sure that the MHPE-L is not ejected.
(5) If ejected, again perform the phase (X-value) adjustment of the audio control head.

2.3.5 Checking/Adjustment of the Tension Pole

(1) Check the back tension cassette gauge (PUJ48076-2) to make sure that the indicator points to 25 - 51 gf•cm.
(2) If the indicated value is outside this range, carry out the following adjustment steps.
  1) Select the mechanism servicing mode. (See 1.5 MECHANISM SERVICE MODE.)
  2) While in the Play mode, turn the adjustment pin with a straight-slot screwdriver while taking care not to touch the 2.5 mm dia. pole. (See Fig.2-3-8.)

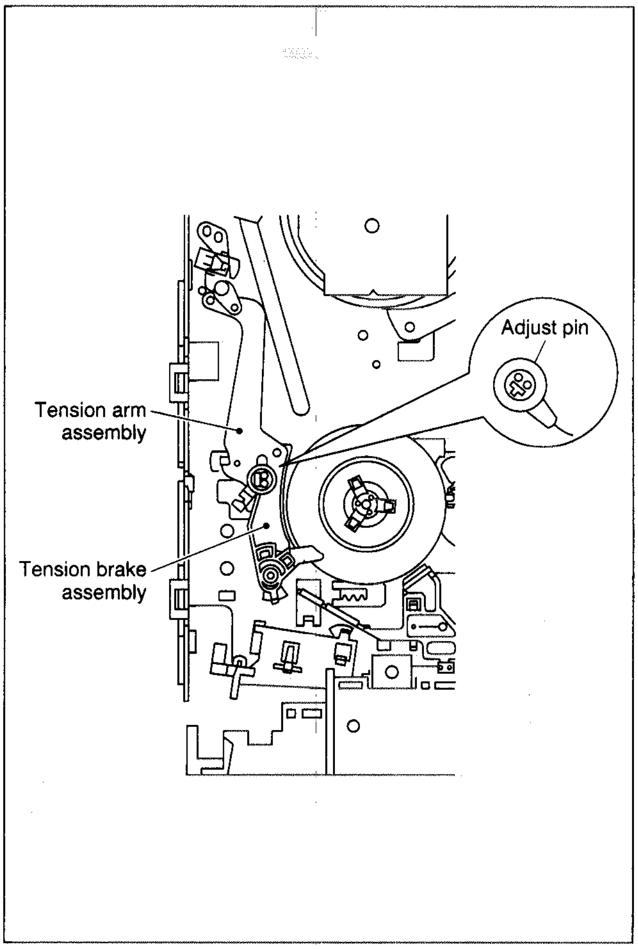


Fig. 2-3-8

2.3.6 Adjustment of the Tension Stud

(1) Adjust so that the left side of the tension stud is on the extension of the notch line of the main deck. (See Fig. 2-3-9.)

Note: *Adjustment is not usually necessary for the tension stud. Perform this adjustment only when it is out of position.*

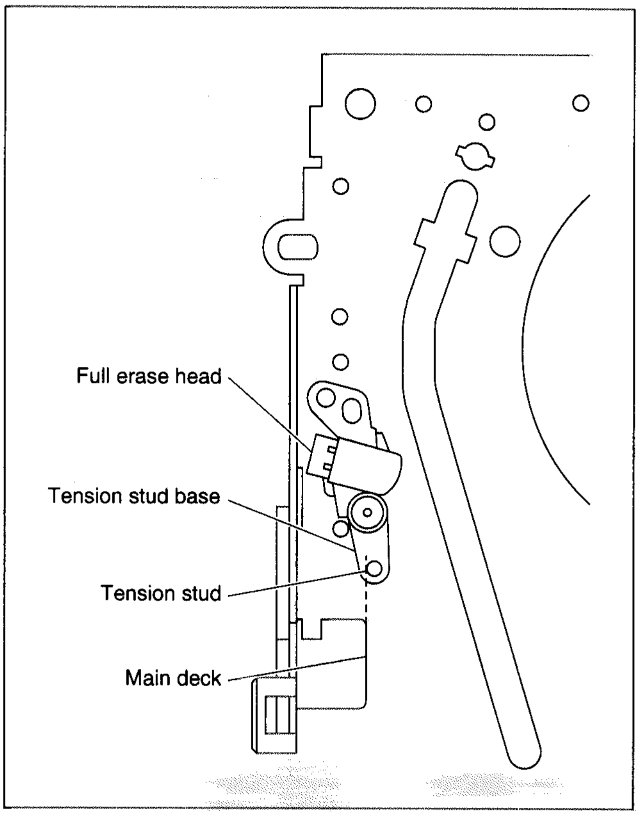


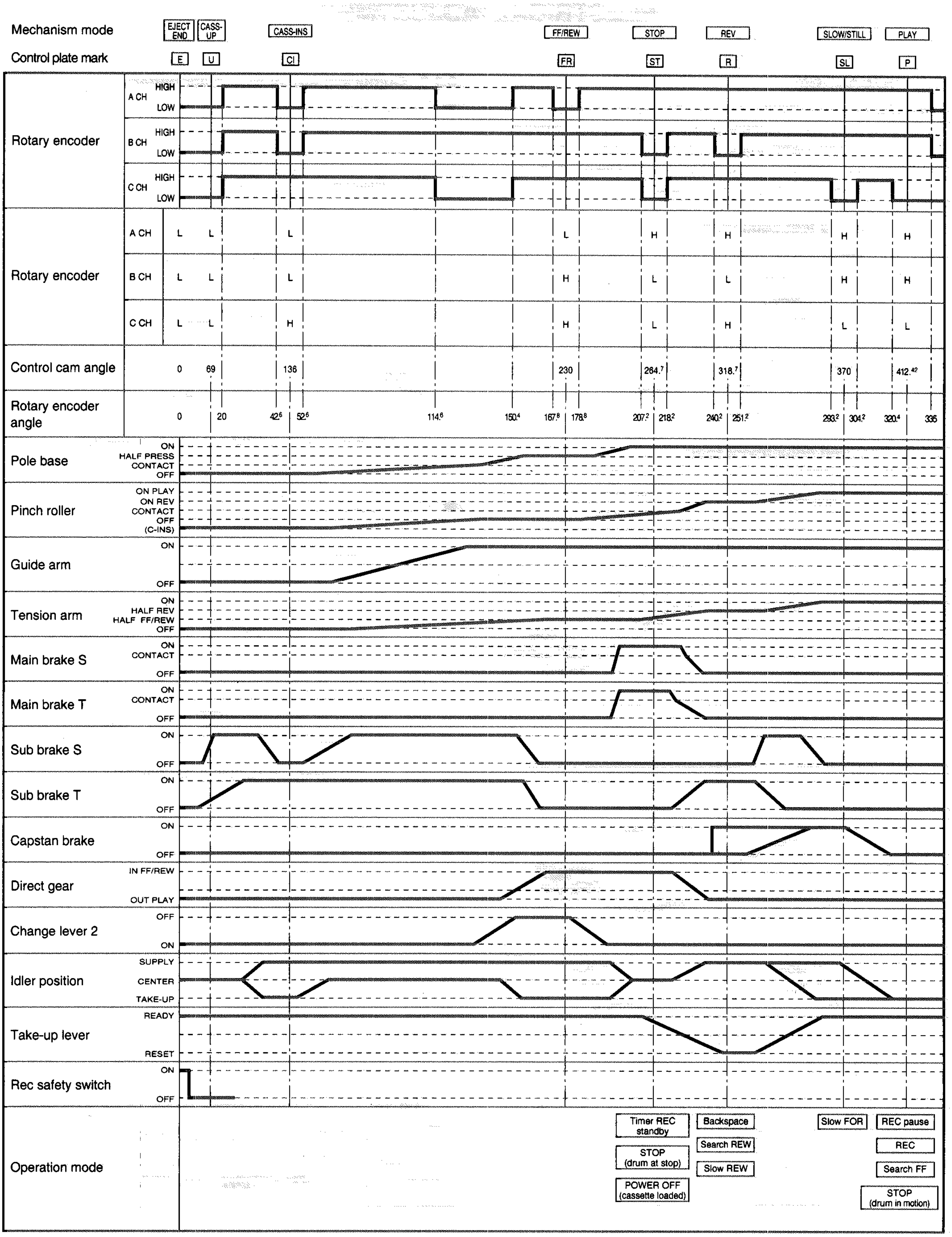
Fig. 2-3-9

2.3.7 Main Brake Torque Adjustment

Note: Adjustment of the main brake torque is required after the adjustment pin has been removed or the main brake assembly or the reel disk on the supply or take-up side have been replaced, removed or attached.

(1) Rotate the pulley of the loading motor by hand to align the mark ▼ on the loading arm gear shaft with the ST marking on the control plate (i.e. set to the STOP mode position).
(2) Insert a torque gauge (PUJ48075-2) into the reel disk on the side to be played, hold the torque gauge lightly, rotate it clockwise when measuring the supply side torque or counterclockwise when measuring the take-up side torque, and read the value indicated at the moment the reel disk starts to slip.
(3) Make sure that the main brake torque values on the supply and take-up sides are both between $23.^{5}$ — $78.^{4}$ x 10^{-3} N•m (240 — 800 gf•cm). If the value is outside the specified range, adjust to the specified value by rotating the adjustment pin.
If an adjustment by using the adjustment pin is not possible, replace the main brake assembly.

Mechanism Timing Chart


Mechanism mode
EJECT END
CASS-UP
CASS-INS
FF/REW
STOP
REV
SLOW/STILL
PLAY
Control plate mark
E
U
CI
FR
ST
R
SL
P
Rotary encoder
A CH
B CH
C CH
HIGH
LOW
Rotary encoder
A CH L L L L H H H H
B CH L L L H L L H H
C CH L L H H L H L L
Control cam angle
0
69
136
230
264.7
318.7
370
412.42
Rotary encoder angle
0
20
42.6
52.6
114.6
150.4
167.8
178.8
207.2
218.2
240.2
251.2
293.2
304.2
320.4
335
Pole base
ON
HALF PRESS
CONTACT
OFF
Pinch roller
ON PLAY
ON REV
CONTACT
OFF
(C-INS)
Guide arm
ON
OFF
Tension arm
ON
HALF REV
HALF FF/REW
OFF
Main brake S
ON
CONTACT
OFF
Main brake T
ON
CONTACT
OFF
Sub brake S
ON
OFF
Sub brake T
ON
OFF
Capstan brake
ON
OFF
Direct gear
IN FF/REW
OUT PLAY
Change lever 2
OFF
ON
Idler position
SUPPLY
CENTER
TAKE-UP
Take-up lever
READY
RESET
Rec safety switch
ON
OFF
Operation mode
Timer REC standby
STOP (drum at stop)
POWER OFF (cassette loaded)
Backspace
Search REW
Slow REW
Slow FOR
REC pause
REC
Search FF
STOP (drum in motion)

SECTION 3
ELECTRICAL ADJUSTMENT

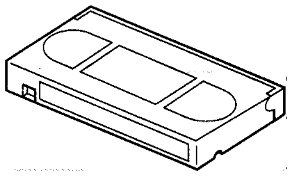
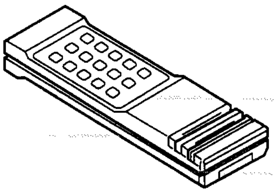
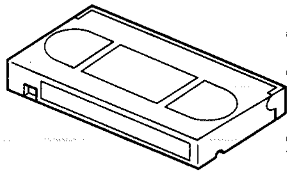
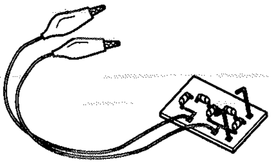
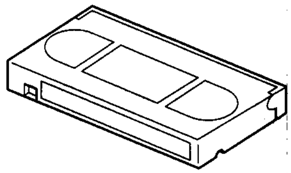
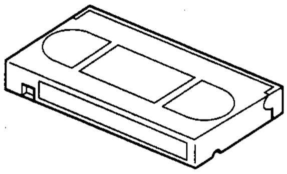
3.1 PRECAUTION

Electrical adjustment are required after replacing circuit components and certain mechanical parts. It is important to perform these adjustments only after all repairs and replacements have been completed. Also do not attempt these adjustments unless the proper equipments is available.

3.1.1 Required test equipment

① Colour television or monitor
② Oscilloscope: wide-band,dual-trace,triggered delayed sweep
③ Frequency counter
④ Signal generator: RF/IF sweep/marker
⑤ Signal generator: PAL colour bar, stairstep
⑥ Recording tape (VHS tape/S-VHS tape)
⑦ Digit-key remote controller(provided)

3.1.2 Required adjustment tools

Alignment tape (SP, stairstep) MHPE	Presetting unit PTU94008
	
Alignment tape (S-VHS, SP/LP, colour bar) MH-2H	LPF PTU93006
	
Alignment tape (SP, stairstep) MHP	Alignment tape (LP, stairstep) MHPE-L
	

3.1.3 Colour bar signal,colour bar pattern

- PAL colour bar signal

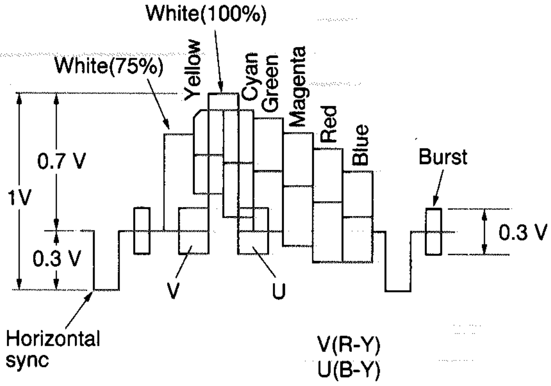

White(100%)
White(75%)
Yellow
Cyan
Green
Magenta
Red
Blue
Burst
0.7 V
1V
0.3 V
0.3 V
V
U
Horizontal sync
V(R-Y)
U(B-Y)

Fig.3-1-1 PAL colour bar signal waveform

- PAL colour bar pattern

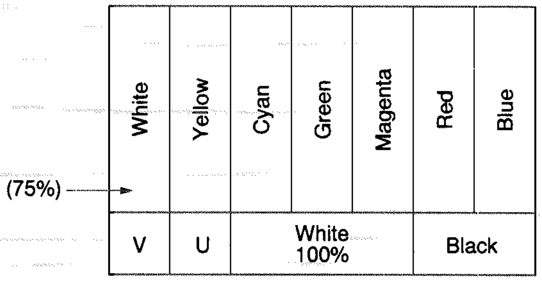

White
Yellow
Cyan
Green
Magenta
Red
Blue
(75%)
V
U
White 100%
Black

Fig.3-1-2 PAL colour bar pattern

Note:

*The system control circuit of this model has an automatic recognition about the ON-OFF control of the **DOCTOR SYSTEM.***

3.2 SERVO CIRCUIT

Notes: • *Unless otherwise specified,all measurement points and adjustment parts are located on the MAIN BOARD.*
- *Set the VCR to the mode A by the remote controller.*

3.2.1 PB switching point

Signal	• Alignment tape [MHPE], Stairstep • Alignment tape [MHP], Stairstep
Mode	• PB • TBC : OFF
Equipment	• Oscilloscope
Measurement point	• VIDEO OUT TERMINAL
Trigger slope (-)	• TP111(D.FF)
Adjustment tool	• Presetting unit [PTU94008]
Specification	• 8.0 ± 0.5H [MHPE] • 7.5 ± 0.5H [MHP]

Note: • *Use only the "E" and "F" buttons, depressing other buttons during adjustment may cause adjustment errors.*

(1) Playback the stairstep signal of the alignment tape [MHPE].
(2) Connect an oscilloscope to VIDEO OUT TERMINAL and TP111 (negative slope), and then observe VIDEO OUT TERMINAL.
(3) Adjust by pressing the "E" or "F" buttons of the presetting unit so that the switching point becomes 8.0 ± 0.5H from V.sync.
(4) Depress the STOP button.
(5) Playback the stairstep signal of the alignment tape[MHP].
(6) Adjust by pressing the "E" or "F" buttons of the presetting unit so that the switching point becomes 7.5 ± 0.5H from V.sync.
(7) Depress the STOP button.

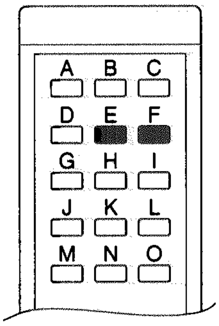


Fig. 3-2-1 Presetting unit

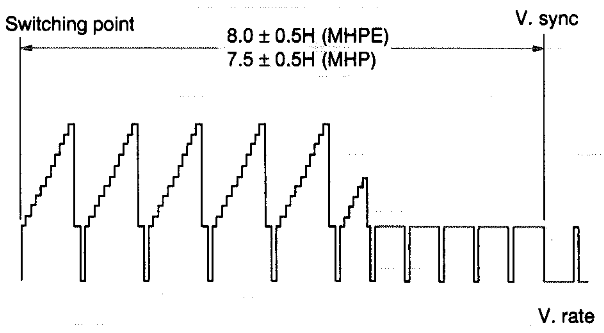


Fig. 3-2-2 PB switching point

3.2.2 Slow tracking preset

Signal	• Tuner or colour bar
Mode	• SP/LP : REC → PB(SLOW) • S-VHS • Automatic tracking OFF
Equipment	• TV-Monitor
Adjustment tool	• Presetting unit [PTU94008]
Specification	• Minimum noise

Note: • *Use only the "B" and "C" buttons, depressing other buttons during adjustment may cause adjustment errors.*

(1) Record a colour bar signal in the SP mode.
(2) Playback the recorded signal on the FWD slow mode.
(3) Set the tracking control to the centre position by simultaneously pressing the CH "+" and "−" buttons.
(4) Observe the display on the TV monitor and adjust for optimum noise condition (best tracking) by depressing the "B " or "C" buttons of the presetting unit.
(5) Depress the STOP button.
(6) Confirm that the bar noise is not visible on the TV monitor in the slow mode.
(7) Repeat steps (2) to (6) in the REV slow mode.
(8) Repeat steps (1) to (7) in the LP mode.

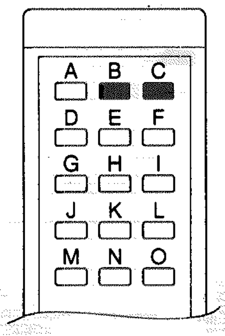


Fig. 3-2-3 Presetting unit

3.2.3 Dynamic drum preset

Signal	• Alignment tape [MHPE-L], Stairstep
Mode	• Automatic tracking OFF
Equipment	• Oscilloscope
Measurement point	• TP106 (V.PB FM)
Trigger slope (+)	• TP111 (D.FF)
Adjustment tool	• Presetting unit [PTU94008]
Specification	• FM waveform flat

Note: • *Use only the "D", "E" and "M" buttons, depressing other buttons during adjustment may cause adjustment errors.*

(1) Connect an oscilloscope to TP106 and external trigger from TP111 (positive slope).
(2) Playback the LP stairstep portion of the alignment tape.
(3) Set the automatic tracking control to the OFF by simultaneously pressing the CH "+" and "–" buttons.
(4) Adjust for maximum level of playback FM waveform by depressing the CH "+" or "–" buttons.
(5) Set the VCR to the LP 2x mode.
(6) Adjust for half level of playback FM waveform from maximum level by depressing the CH "+" or "–" buttons.
(7) Adjust by pressing the "M+D" or "M+E" buttons of the presetting unit for FM waveform is flat as shown in Fig. 3-2-5.
(8) Record the stairstep signal by the LP mode and play it back.
(9) Repeat steps (3) and (7) in the LP 1/6 FWD slow mode.

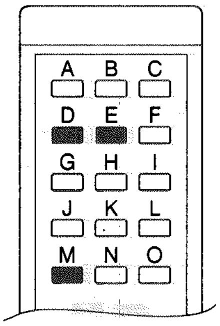


Fig. 3-2-4 Presetting unit

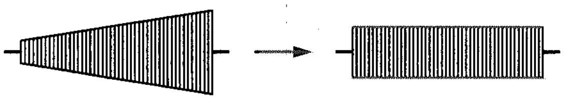


Fig. 3-2-5 PB FM

3.3 VIDEO CIRCUIT

Notes: • *Unless otherwise specified,all measurement points and adjustment parts are located on the MAIN BOARD.*
- *VIDEO circuit adjustments are performed by the EVR system by use of the presetting unit and digit-key remote controller.*
- *S-INPUT means Y/C separated video signal in the chart.*
- *Set the VCR to the mode A by the remote controller.*
- *Unless otherwise specified, set the VCR to the following mode.*

B.E.S.T	OFF
PICTURE CONTROL	NORMAL
TBC	ON

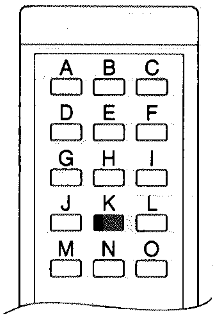


Fig. 3-3-1 Presetting unit

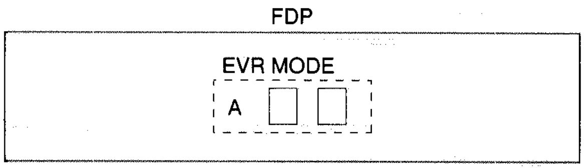


Fig. 3-3-2 EVR mode

3.3.1 EE Y level

Signal	• Colour bar
Mode	• EE
Equipment	• Oscilloscope
Measurement point	• Y OUT TERMINAL (75 ohm TERMINATION)
Adjustment tool	• Presetting unit [PTU94008] • Digit-key remote controller
EVR mode	• A : 11
Specification	• 1.00 ± 0.03 Vp-p (terminated)

(1) Connect an oscilloscope to Y OUT TERMINAL.
(2) Set the EVR mode by pressing the "K" button of the presetting unit.
(3) Set "A : 11" by twice pressing 1 button of the remote controller.

(4) Adjust the CH "+" or "–" buttons for 1.00 ± 0.03 Vp-p. (See Fig. 3-3-3.)

(5) Set the normal VCR mode by pressing the "K" button of the presetting unit again so adjustment data is memorized.

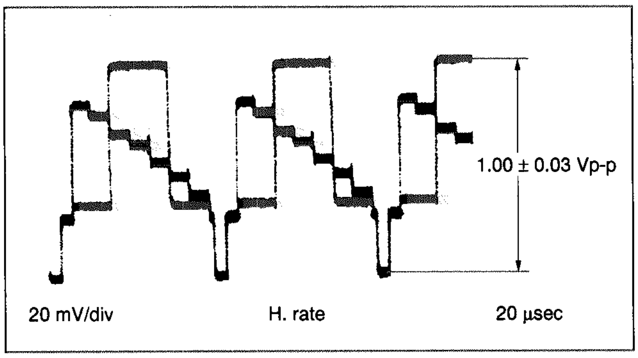


Fig. 3-3-3 EE Y level

3.3.2 SP/LP REC colour level

Signal	• Alignment tape [MH-2H] • Colour bar
Mode	• PB • REC → PB : SP/LP • S-VHS
Equipment	• Oscilloscope
Measurement point	• PB COLOUR
Trigger slope (–)	• TP111 (D.FF)
Adjustment tool	• Presetting unit [PTU94008] • Digit-key remote controller • LPF fixture [PTU93006]
EVR mode	• A : 2
Specification	• "B" x 150 ± 5% : SP • "B" x 110 ± 5% : LP

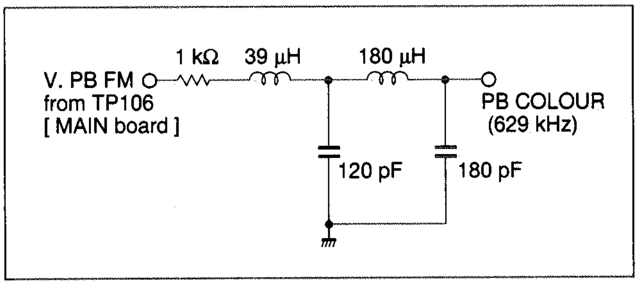


Fig. 3-3-4 LPF

(1) Connect an oscilloscope to PB COLOUR of a LPF (refer to Fig. 3-3-4) and TP111 (negative slope) on the MAIN board.

(2) Playback the SP colour bar signal of the MH-2H alignment tape.

(3) Adjust by pressing the CH "+" or "–" buttons of the Front panel for maximum level of the color waveform and make a note of the higher colour level "B".

(4) Press the STOP/EJECT button and eject the MH-2H alignment tape.

(5) Set the EVR mode by pressing the "K" button of the presetting unit.

(6) Set "A : 2" by pressing 2 button of the remote controller.

(7) Before recording, adjust the CH "+" or "–" buttons of the remote controller so that the higher level channel becomes 150 ± 5% : SP (110 ± 5% : LP) of the note "B" level during playback as shown in Fig. 3-3-5.

(8) Record a colour bar signal in the SP (LP) mode, and playback the recorded colour bar signal.

(9) Set the normal VCR mode by pressing the "K" button again so adjustment data is memorized.

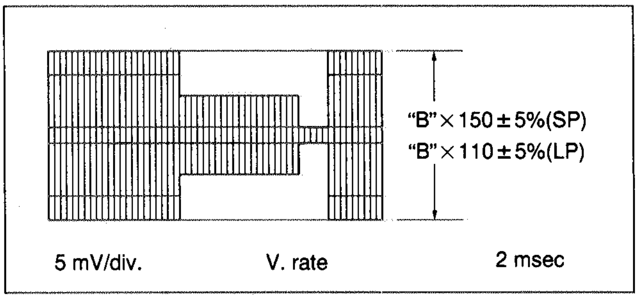


Fig. 3-3-5 REC colour level

3.3.3 PB Y level (S-VHS/VHS)

Signal	• Colour bar
Mode	• REC → PB : SP • S-VHS/VHS
Equipment	• Oscilloscope
Measurement point	• Y OUT TERMINAL (75 ohm TERMINATION)
Adjustment tool	• Presetting unit [PTU94008] • Digit-key remote controller
EVR mode	• A : 11
Specification	• 1.00 ± 0.03 Vp-p (terminated)

(1) Connect an oscilloscope to Y OUT TERMINAL.

(2) Set the EVR mode by pressing the "K" button of the presetting unit.

(3) Set "A : 11" by twice pressing 1 button of the remote controller.

(4) Record a colour bar signal in the S-VHS mode, and playback the recorded colour bar signal.

(5) Adjust the CH "+" or "–" buttons for 1.00 ± 0.03 Vp-p as shown in Fig. 3-3-6.

(6) Set the normal VCR mode by pressing the "K" button of the presetting unit again so adjustment data is memorized.

(7) Repeat steps (1) to (6) in the VHS mode.

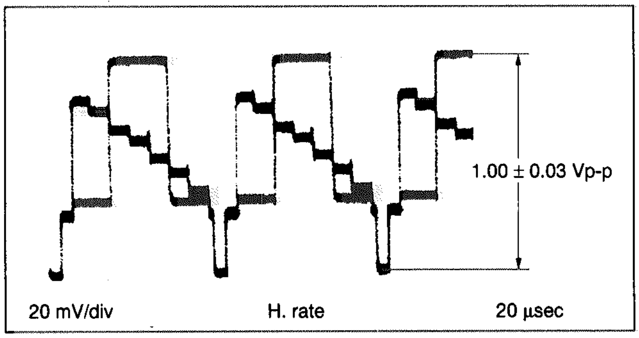


Fig. 3-3-6 PB Y level

3.3.4 S-VHS VIDEO EQ

Signal	• S INPUT • Video sweep
Mode	• REC → PB : SP/LP • S-VHS • Picture Control REC : Normal PB : Edit
Equipment	• Oscilloscope
Measurement point	• Y OUT TERMINAL (75 ohm TERMINATION)
Trigger slope (–)	• TP111 (D.FF)
Adjustment tool	• Presetting unit [PTU94008] • Digit-key remote controller
EVR mode	• A : 3
Specification	• 3.6 ± 0.4 scale : SP • 3.2 ± 0.4 scale : LP

(1) Connect an oscilloscope to Y OUT TERMINAL and TP111 (negative slope).
(2) Record a video sweep signal in the S-VHS SP mode, then play it back.
(3) Set the EVR mode by pressing the "K" button of the presetting unit.
(4) Set "A : 3" by pressing 3 button of the remote controller.
(5) When assuming the 100 KHz sweep signal marker on the bigger channel is four scales on the oscilloscope, adjust the CH "+" or "–" buttons on the front panel or the Digit-key remote controller so that the 3 MHz is set at 3.6 ± 0.4 scale (–1 ± 1.0 dB) while observing Y OUT of the S output. (See Fig. 3-3-7.)
(6) Set the normal VCR mode by pressing the "K" button of the presetting unit again so adjustment data is memorized.
(7) Carry out the step (3) and (4) in the S-VHS LP mode.
(8) When assuming the 100 kHz sweep signal marker on the bigger channel is four scales on the oscilloscope, adjust the CH "+" or "–" buttons on the front panel or the Digit-key remote controller so that the 3 MHz is set at 3.2 ± 0.4 scale (–2 ± 1.0 dB) while observing Y OUT of the S output. (See Fig. 3-3-7.)

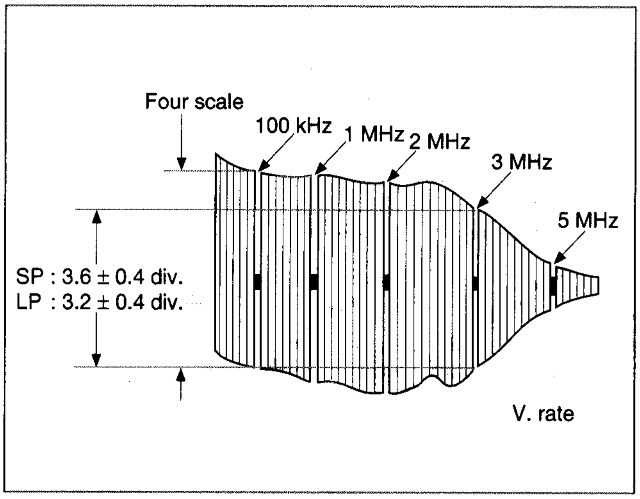


Fig. 3-3-7 S-VHS VIDEO EQ

3.3.5 D/A level

Signal	• Colour bar
Mode	• EE • S-VHS
Equipment	• Oscilloscope
Measurement point	• CN1003-3 pin (Y OUT) [3D SVHS board]
Adjustment part	• VR1401 (D/A LEVEL) [3D SVHS board]
Specification (NOTE)	• 2.05 Vp-p (REFERENCE VALUE)

(1) Connect the oscilloscope to the CN1003-3 pin(Y OUT) on the 3D SVHS board.
(2) Confirm the Y level value during external S input.
(3) Switch the input signal to the external input, then adjust the VR1401 on the 3D SVHS board so that the Y level value becomes the same level value which was confirmed at the step (2).

Note: • *The adjusted value of 2.05 Vp-p is a reference value which should be obtained during external S input. The value should be adjusted to the one which was confirmed at step (2).*

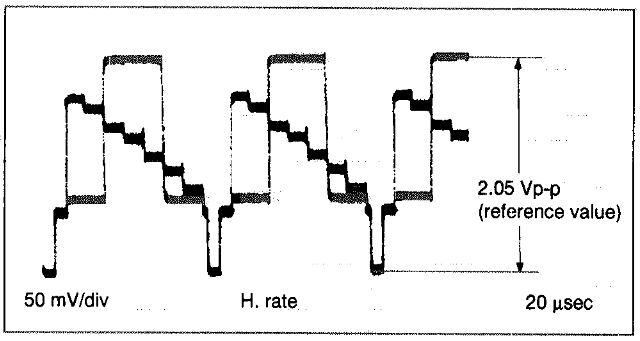


Fig. 3-3-8 D/A LEVEL

3.3.6 Pilot burst level

Signal	• Colour bar
Mode	• EE • S-VHS
Equipment	• Oscilloscope
Measurement point	• TP1001 (FSC PHASE) [3D SVHS board]
Adjustment part	• VR1002 (P. BURST LEVEL) [3D SVHS board]
Specification	• "B" x 110 ± 10%

(1) Connect the oscilloscope to the TP1001 (FSC PHASE) on the 3D SVHS board.
(2) Load an S-VHS tape then set the unit to the S-VHS EE mode.
(3) Adjust the VR1002 of the 3D SVHS so that the pilot burst level becomes "B" x 110 ±10% against the value of the burst level "B".

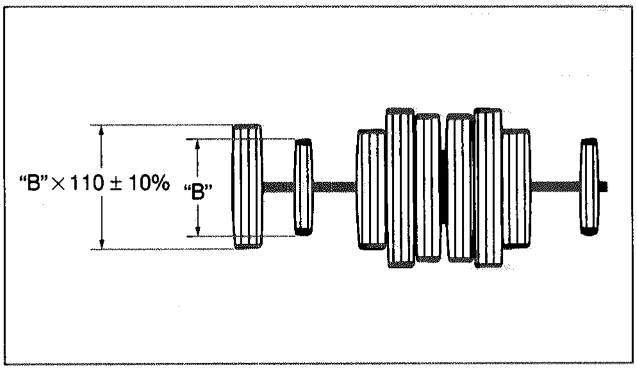


Fig. 3-3-9 PILOT BURST LEVEL

3.3.7 Auto picture

Signal	• Monoscope
Mode	• REC → PB : SP/LP • S-VHS
Adjustment tool	• Presetting unit [PTU94008]
Specification	• STOP mode

Note: • *Use only the "L" button, depressing other buttons during adjustment may cause adjustment errors.*

(1) Record a monoscope signal in the SP mode.
(2) Playback the recorded signal.
(3) Press the "L" button of the presetting unit during playback.
(4) Confirm that the VCR will go into the STOP mode.
(5) Repeat steps (2) to (4) in the LP mode.

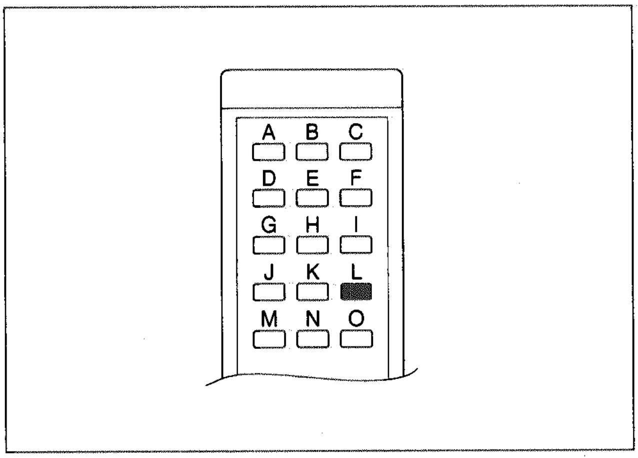


Fig. 3-3-10 Presetting unit

3.4 ON SCREEN CIRCUIT

Note: • *Set the VCR to the mode A by the remote controller.*

3.4.1 Character position

Signal	• No signal
Mode	• EE
Equipment	• TV-monitor
Adjustment tool	• Presetting unit [PTU94008] • Digit-key remote controller
Specification	• Character centre

Note: • *Use only the "H" button, depressing other buttons during adjustment may cause adjustment errors.*

(1) Press the MENU button and display the on screen character.
(2) Observe the TV-monitor and centre position of character by pressing the "H" button of the presetting unit.

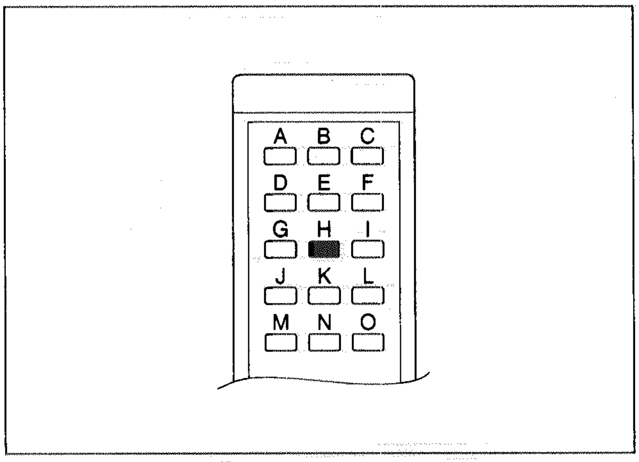


Fig. 3-4-1 Presetting unit

3.5 AUDIO CIRCUIT

Notes: • *Unless otherwise specified, all measurement points and adjustment parts are located on the MAIN BOARD.*

- *This adjustment should be done after the video circuit SP and LP REC colour level are adjusted.*
- *GND(Ground) should be taken from the tuner board shield.*

3.5.1 REC FM level

Signal	• AUX • VIDEO : Colour bar • AUDIO : No signal
Mode	• REC → PB : LP • S-VHS • B.E.S.T : OFF
Equipment	• Oscilloscope
Measurement point	• TP2253 (A. PB FM)
Trigger slope (–)	• TP111 (D. FF)
Adjustment part	• VR2251 (A. REC. FM)
Specification	• 600 ± 100 mVp-p

(1) Connect an oscilloscope to TP2253.
(2) Record a colour bar signal without an audio signal in the S-VHS LP mode then playback.
(3) Adjust VR2251 for 600 ± 100 mVp-p playback level of higher channel level before recording.
(4) Confirm that the lower channel level is more than 450 mVp-p.

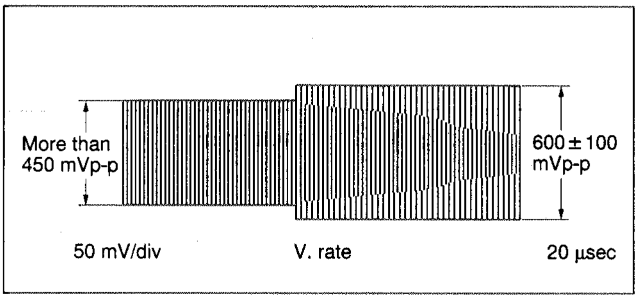


Fig. 3-5-1 Audio REC FM level

3.6 SYSCON CIRCUIT

Notes: • *Unless otherwise specified,all measurement points and adjustment parts are located on the MAIN BOARD.*

- *When perform this adjustment,remove the MECHANISM assembly.*

3.6.1 Timer clock

Signal	• No signal
Mode	• EE
Equipment	• Frequency counter
Measurement point	• IC3001-PIN61
Adjustment part	• C3025 (TIMER CLOCK)
Specification	• 1024.008 ± 0.001 Hz [976.5549 ± 0.0010 µsec.]

(1) Connect the frequency counter to IC3001-PIN61.
(2) Connect the short wire between IC3001-PIN24 and Vcc(5V).
(3) Short the leads of capacitor C3026 once in order to reset IC3001.
(4) Disconnect the short wire between IC3001-PIN24 and Vcc then connect it again.
(5) Adjust C3025 trimmer capacitor so that the output from IC3001-PIN61 falls within 1024.008 ± 0.001 Hz (976.5549 ± 0.0010 µsec.) range.

SECTION 4
CHARTS AND DIAGRAMS

NOTES OF SCHEMATIC DIAGRAM

Safety precautions
The Components identified by the symbol ⚠ are critical for safety. For continued safety, replace safety critical components only with manufacturer's recommended parts.

1. Units of components on the schematic diagram

Unless otherwise specified.

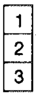
1) All resistance values are in ohm, 1/6 W, 1/8 W (refer to parts list).
   Chip resistors are 1/16 W.
   K: KΩ (1000Ω), M: MΩ (1000KΩ)
2) All capacitance values are in μF, (P: PF).
3) All inductance values are in μH, (m: mH).
4) All diodes are 1SS133, MA165 or 1N4148M (refer to parts list).

2. Indications of control voltage

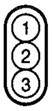
AUX : Active at high

$\overline{\text{AUX}}$ or AUX(L) : Active at low

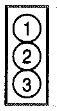
3. Interpreting Connector indications



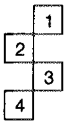
Removable connector



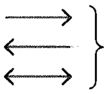
Wire soldered directly on board



Non-removable Board connector



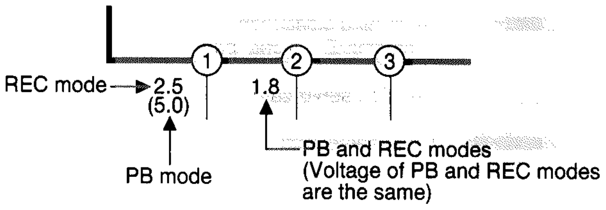
Board to Board



Connected pattern on board
The arrows indicate signal path

4. Voltage measurement

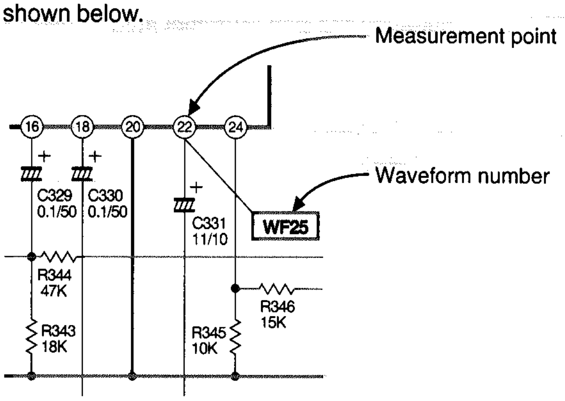
1) Video circuits
   REC : Colour bar signal in SP mode, normal VHS mode
   PB : Alignment tape, colour bar SP mode, normal VHS mode
   — : Unmeasurable or unnecessary to measure
2) Audio circuits
   REC : 1KHz, –8 dBs sine wave signal in SP mode, Normal VHS mode
   PB : REC then playback it
3) Movie Camera circuits
   Measured using a correctly illuminated gray scale or colour bar test charts in the E-E mode
4) Indication on schematic diagram
   Voltage Indications for REC and PB mode on the schematic diagram are as shown below.


1
2
3
REC mode
2.5
(5.0)
1.8
PB mode
PB and REC modes
(Voltage of PB and REC modes are the same)

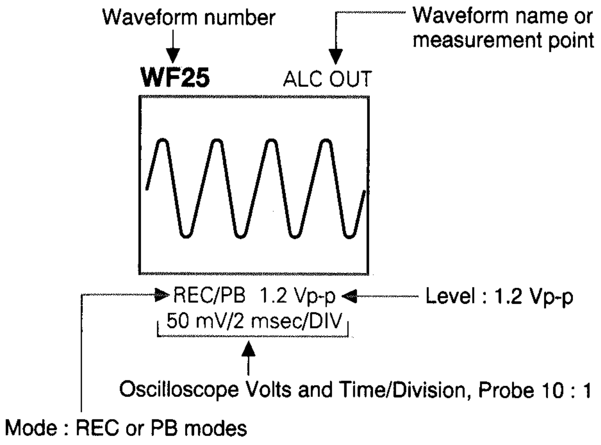
Note: If the voltages are not indicated on the schematic diagram, refer to the voltage charts.

5. Waveform measurement

1) Video circuits
   REC : Colour bar signal in SP mode, normal VHS mode
   PB : Alignment tape, colour bar SP mode, normal VHS mode
2) Audio circuits
   REC : 1KHz, –8 dBs sine wave signal in SP mode, normal VHS mode
   PB : REC then playback it
3) Movie Camera circuits
   Measured using a correctly illuminated gray scale or colour bar test chatrs in the E-E mode
4) Indication on schematic diagram
   Waveform indications on the schematic diagram are as shown below.

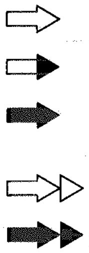

Measurement point
16
18
20
22
24
Waveform number
C329
0.1/50
C330
0.1/50
C331
11/10
WF25
R344
47K
R343
18K
R345
10K
R346
15K

5) Waveform indications


Waveform number
Waveform name or measurement point
WF25
ALC OUT
REC/PB 1.2 Vp-p
Level : 1.2 Vp-p
50 mV/2 msec/DIV
Oscilloscope Volts and Time/Division, Probe 10 : 1
Mode : REC or PB modes

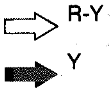
6. Signal path Symbols

The arrows indicate the signal path as follows.



- Playback signal path
- Playback and recording signal path
- Recording signal path (including E-E signal path)
- Capstan servo path
- Drum servo path

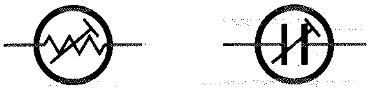
(Example)



- Playback R-Y signal path
- Recording Y signal path

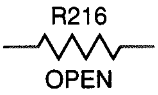
7. Indication of the parts for adjustments

The parts for the adjustments are surrounded with the circle as shown below.



8. Indication of the parts not mounted on the circuit board

"OPEN" is indicated by the parts not mounted on the circuit board.



CIRCUIT BOARD NOTES

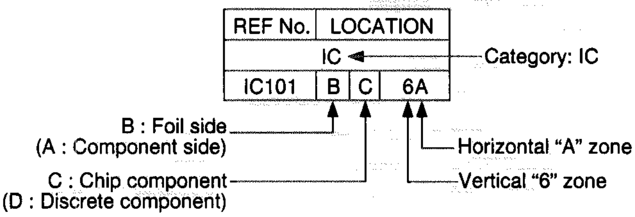
1. Foil and Component sides

1) Foil side (B side) :
Parts on the foil side seen from foil face (pattern face) are indicated.

2) Component side (A side) :
Parts on the component side seen from component face (parts face) indicated.

2. Parts location guides

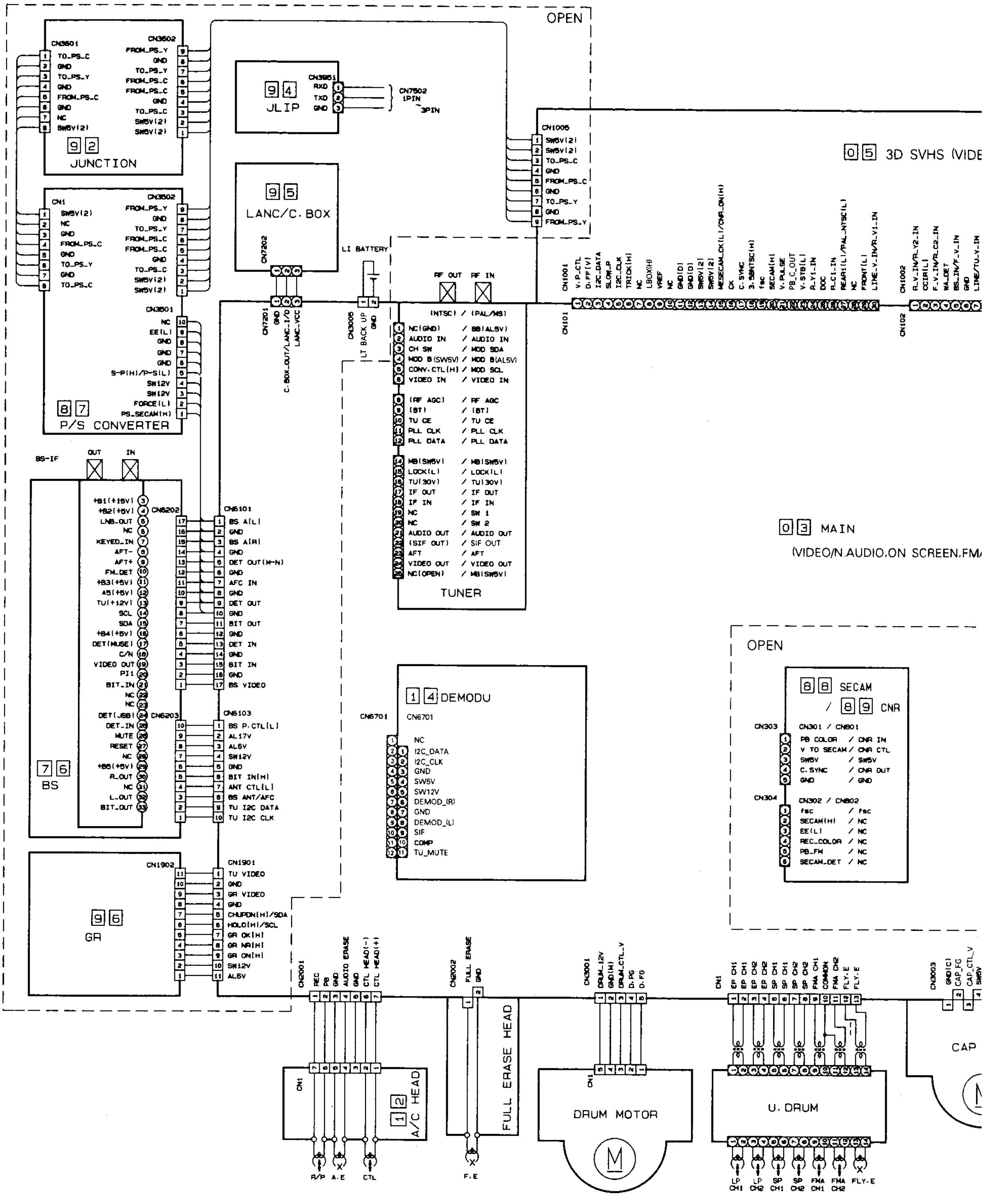
Parts location are indicated by guide scale on the circuit board.


REF No.
LOCATION
IC
Category: IC
IC101
B
C
6A
B : Foil side
(A : Component side)
C : Chip component
(D : Discrete component)
Horizontal "A" zone
Vertical "6" zone

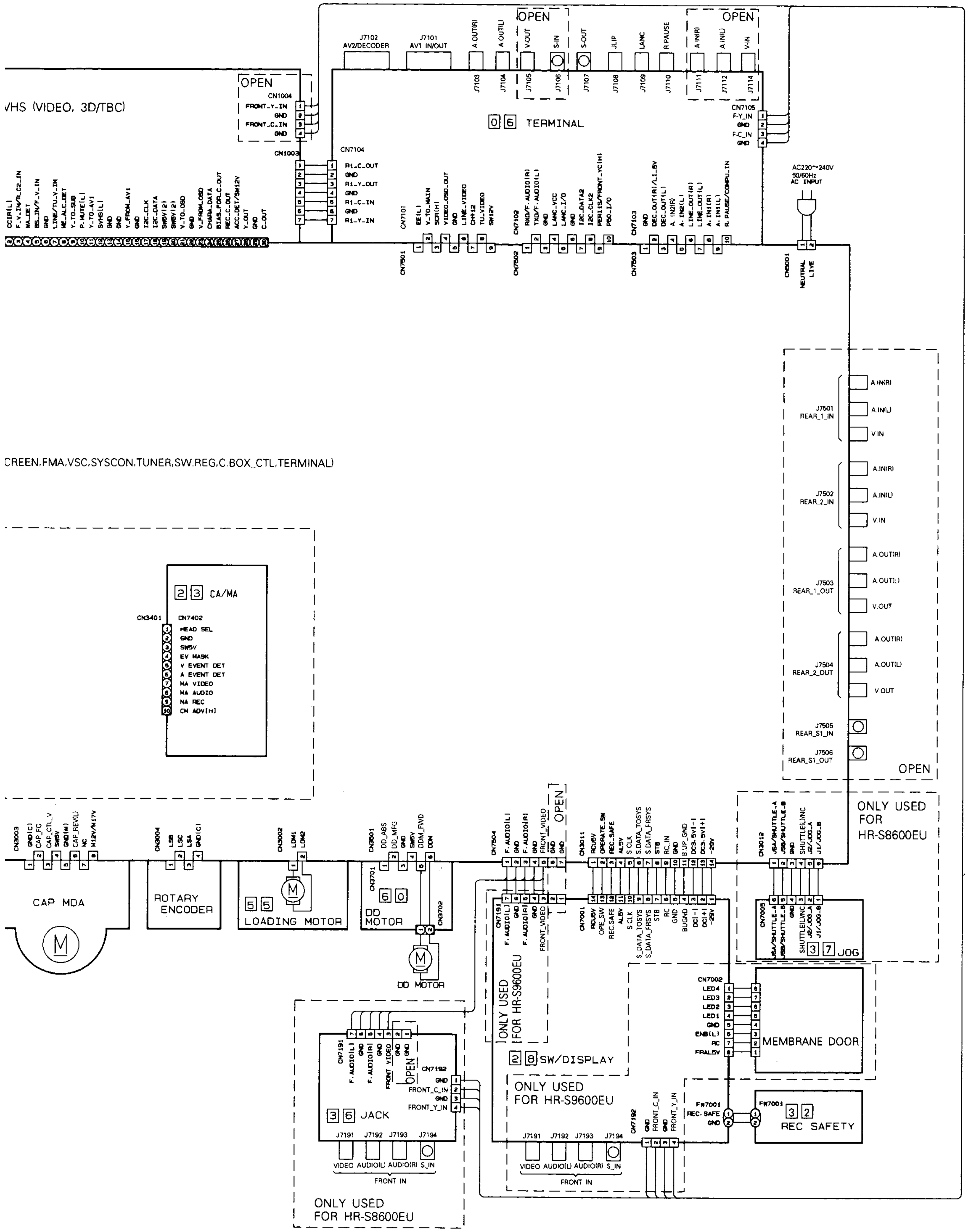
Note:

For general information in service manual, please refer to the Service Manual of GENERAL INFORMATION Edition 4 No. 82054D (January 1994).

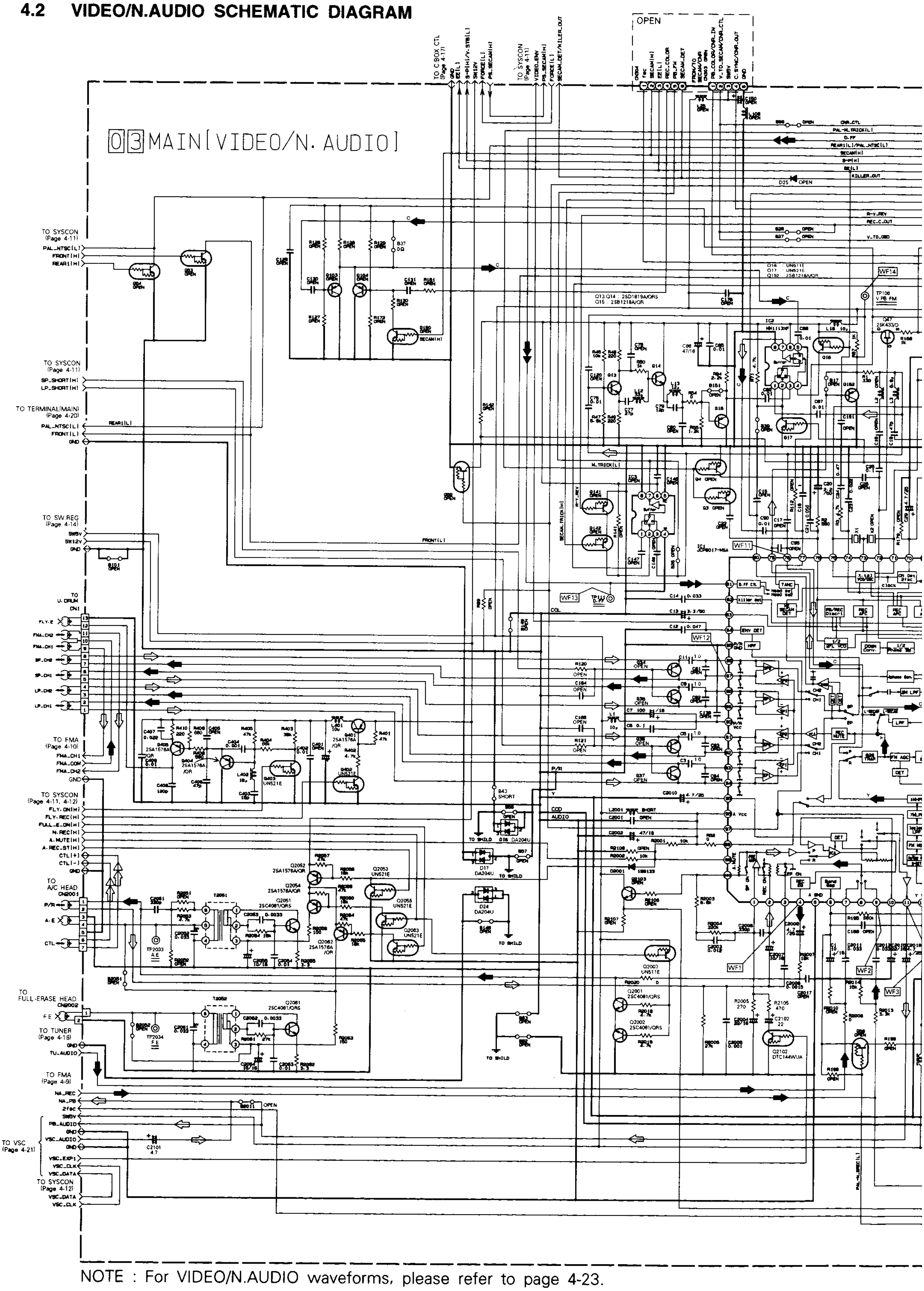
4.1 BOARD INTERCONNECTIONS


OPEN
CN3601
TO_PS_C
GND
TO_PS_Y
GND
FROM_PS_C
GND
NC
SW5V(2)
CN3602
FROM_PS_Y
GND
TO_PS_Y
FROM_PS_C
FROM_PS_C
GND
TO_PS_C
SW5V(2)
SW5V(2)
92
JUNCTION
94
JLIP
CN3951
RXD
TXD
GND
CN7502
1PIN
~3PIN
95
LANC/C.BOX
CN7202
CN7201
GND
LANC_I/O
LANC_VCC
C.BOX_OUT/LANC_I/O
LI BATTERY
CN3005
LT BACK UP
GND
CN1
SW5V(2)
NC
GND
FROM_PS_C
GND
TO_PS_Y
GND
TO_PS_C
CN3502
CN3501
NC
EE(L)
GND
GND
GND
S-P(H)/P-S(L)
SW12V
SW12V
FORCE(L)
PS_SECAM(H)
87
P/S CONVERTER
BS-IF
OUT
IN
+B1(+15V)
+B2(+5V)
LNB_OUT
NC
KEYED_IN
AFT-
AFT+
FM_DET
+B3(+5V)
A5(+5V)
TU(+12V)
SCL
SDA
+B4(+5V)
DET(MUSE)
C/N
VIDEO OUT
PI1
BIT_IN
NC
NC
DET(JSB)
DET_IN
MUTE
RESET
NC
+B6(+5V)
R_OUT
NC
L_OUT
BIT_OUT
CN6202
CN6203
76
BS
CN6101
BS A(L)
GND
BS A(R)
GND
DET OUT(M-N)
GND
AFC IN
GND
DET OUT
GND
BIT OUT
GND
DET IN
GND
BIT IN
GND
BS VIDEO
CN6103
BS P.CTL(L)
AL17V
AL6V
SW12V
GND
BIT IN(H)
ANT CTL(L)
BS ANT/AFC
TU I2C DATA
TU I2C CLK
CN1902
96
GR
CN1901
TU VIDEO
GND
GR VIDEO
GND
CHUPON(H)/SDA
HOLD(H)/SCL
GR OK(H)
GR NR(H)
GR ON(H)
SW12V
AL6V
RF OUT
RF IN
(NTSC) / (PAL/MS)
NC(GND) / BB(AL5V)
AUDIO IN / AUDIO IN
CH SW / MOD SDA
MOD B(SW5V) / MOD B(AL5V)
CONV.CTL(H) / MOD SCL
VIDEO IN / VIDEO IN
(RF AGC) / RF AGC
(BT) / (BT)
TU CE / TU CE
PLL CLK / PLL CLK
PLL DATA / PLL DATA
MB(SW5V) / MB(SW5V)
LOCK(L) / LOCK(L)
TU(30V) / TU(30V)
IF OUT / IF OUT
IF IN / IF IN
NC / SW 1
NC / SW 2
AUDIO OUT / AUDIO OUT
(SIF OUT) / SIF OUT
AFT / AFT
VIDEO OUT / VIDEO OUT
NC(OPEN) / MB(SW5V)
TUNER
CN1005
SW5V(2)
SW5V(2)
TO_PS_C
GND
FROM_PS_C
GND
TO_PS_Y
GND
FROM_PS_Y
05 3D SVHS (VIDE
CN1001
V.P_CTL
D.FF(V)
I2C_DATA
SLOW_P
I2C_CLK
TRICK(H)
NC
LBOX(H)
VREF
NC
GND(D)
GND(D)
SW5V(2)
SW5V(2)
MESECAM_CK(L)/CNR_ON(H)
CK
C.SYNC
3.58NTSC(H)
fsc
SECAM(H)
V.PULSE
PB_C_OUT
V.STB(L)
R.Y1_IN
DOC
R.C1_IN
REAR(L)/PAL_NTSC(L)
NC
FRONT(L)
LINE_V_IN/R_V1_IN
CN101
CN1002
R_V_IN/R_Y2_IN
CCIR(L)
F_V_IN/R_C2_IN
MA_DET
BS_IN/F_V_IN
GND
LINE/TU_V_IN
CN102
03 MAIN
(VIDEO/N.AUDIO,ON SCREEN,FM/
14 DEMODU
CN6701
CN6701
NC
I2C_DATA
I2C_CLK
GND
SW5V
SW12V
DEMOD_(R)
GND
DEMOD_(L)
SIF
COMP
TU_MUTE
OPEN
88 SECAM
/ 89 CNR
CN303
CN301 / CN801
PB COLOR / CNR IN
V TO SECAM / CNR CTL
SW5V / SW5V
C.SYNC / CNR OUT
GND / GND
CN304
CN302 / CN802
fsc / fsc
SECAM(H) / NC
EE(L) / NC
REC_COLOR / NC
PB_FM / NC
SECAM_DET / NC
CN2001
REC
PB
GND
AUDIO ERASE
GND
CTL HEAD(-)
CTL HEAD(+)
CN1
12
A/C HEAD
R/P
A.E
CTL
CN2002
FULL ERASE
GND
FULL ERASE HEAD
F.E
CN3001
DRUM_12V
GND(H)
DRUM_CTL_V
D.PG
D.FG
CN1
DRUM MOTOR
M
CN1
EP CH1
EP CH1
EP CH2
EP CH2
SP CH1
SP CH1
SP CH2
SP CH2
FMA CH1
COMMON
FMA CH2
FLY.E
FLY.E
U.DRUM
LP CH1
LP CH2
SP CH1
SP CH2
FMA CH1
FMA CH2
FLY.E
CN3003
GND(C)
CAP_FG
CAP_CTL_V
SW5V
CAP
5
4
3
2
1
A
B
C
D

60	DD MOTOR
55	LOADING MOTOR
37	JOG
36	JACK
32	REC SAFETY
28	SW/DISPLAY
14	DEMODU
12	A/C HEAD
06	TERMINAL
05	3D SVHS
03	MAIN
NO	NAME

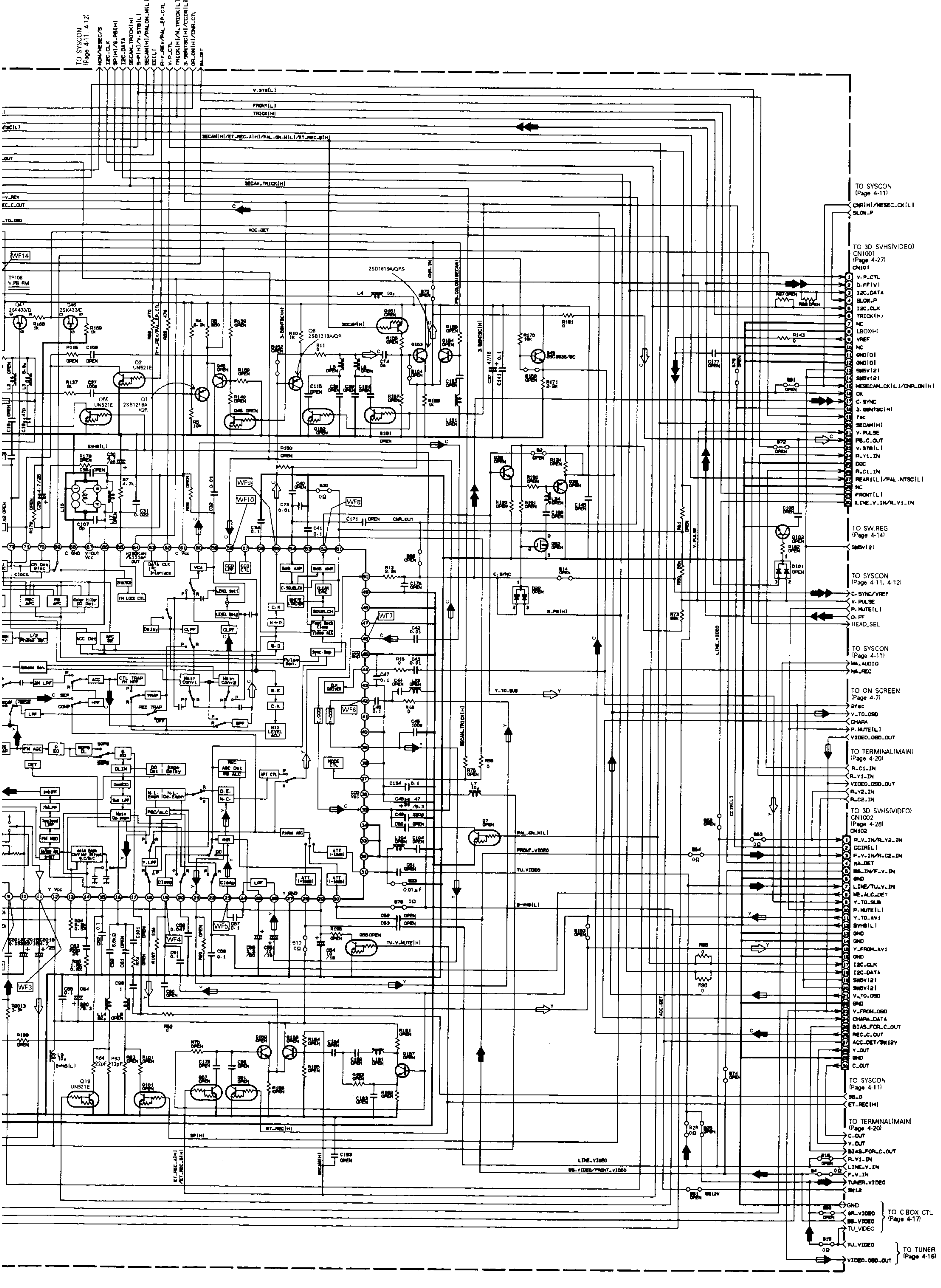

VHS (VIDEO, 3D/TBC)
OPEN
CN1004
FRONT_Y_IN
GND
FRONT_C_IN
GND
CN1003
CCIR(L)
F_V_IN/R_C2_IN
WA_DET
BS_IN/F_V_IN
GND
LINE/TU_V_IN
ME_ALC_DET
Y_TO_SUB
P.MUTE(L)
Y_TO_AV1
SVHS(L)
GND
GND
Y_FROM_AV1
GND
I2C_CLK
I2C_DATA
SW5V(2)
SW5V(2)
V_TO_OSD
GND
V_FROM_OSD
CHARA_DATA
BIAS_FOR_C_OUT
REC_C_OUT
ACC_DET/SW12V
Y_OUT
GND
C_OUT
J7102
AV2/DECODER
J7101
AV1 IN/OUT
A.OUT(R)
A.OUT(L)
OPEN
V-OUT
S-IN
S-OUT
JLIP
LANC
R.PAUSE
OPEN
A.IN(R)
A.IN(L)
V-IN
J7103
J7104
J7105
J7106
J7107
J7108
J7109
J7110
J7111
J7112
J7114
CN7104
R1_C_OUT
GND
R1_Y_OUT
GND
R1_C_IN
GND
R1_Y_IN
0 6 TERMINAL
CN7105
F-Y_IN
GND
F-C_IN
GND
AC220~240V
50/60Hz
AC INPUT
CN7101
EE(L)
V_TO_MAIN
SCR(H)
VIDEO_OSD_OUT
GND
LINE_VIDEO
CH12
TU_VIDEO
SW12V
CN7102
RXD/F.AUDIO(R)
TXD/F.AUDIO(L)
GND
LANC_VCC
LANC_I/O
GND
I2C_DATA2
I2C_CLK2
PERI15/FRONT_YC(H)
P50_I/O
CN7103
GND
DEC_OUT(R)/L1_5V
DEC_OUT(L)
A.IN2(R)
A.IN2(L)
LINE_OUT(R)
LINE_OUT(L)
A.IN1(R)
A.IN1(L)
R.PAUSE/COMPU_IN
CN7501
CN7502
CN7503
CN5001
NEUTRAL
LIVE
CREEN,FMA,VSC,SYSCON,TUNER,SW.REG,C.BOX_CTL,TERMINAL)
J7501
REAR_1_IN
A.IN(R)
A.IN(L)
V.IN
J7502
REAR_2_IN
A.IN(R)
A.IN(L)
V.IN
J7503
REAR_1_OUT
A.OUT(R)
A.OUT(L)
V.OUT
J7504
REAR_2_OUT
A.OUT(R)
A.OUT(L)
V.OUT
J7505
REAR_S1_IN
J7506
REAR_S1_OUT
OPEN
2 3 CA/MA
CN3401
CN7402
HEAD SEL
GND
SW5V
EV MASK
V EVENT DET
A EVENT DET
MA VIDEO
MA AUDIO
MA REC
CM ADV(H)
CN3003
GND(C)
CAP_FG
CAP_CTL_V
SW5V
GND(M)
CAP_REV(L)
NC
M12V/M17V
CAP MDA
M
CN3004
LSB
LSC
LSA
GND(C)
ROTARY ENCODER
CN3002
LDM1
LDM2
M
5 5 LOADING MOTOR
CN3501
DD_ABS
DD_MFG
GND
SW5V
DDM_FWD
DDM
CN3701
6 0
DD MOTOR
CN3702
M
DD MOTOR
CN7504
F.AUDIO(L)
GND
F.AUDIO(R)
GND
FRONT_VIDEO
GND
GND
OPEN
CN3011
RCU5V
OPERATE_SW
REC_SAFE
AL5V
S.CLK
S.DATA_TOSYS
S.DATA_FRSYS
STB
RC_IN
GND
B.UP_GND
DC3.5V(-)
DC3.5V(+)
-29V
CN3012
JSA/SHUTTLE_A
JSB/SHUTTLE_B
GND
SHUTTLE(L)/NC
J2/JOG_A
J1/JOG_B
ONLY USED
FOR
HR-S8600EU
CN7191
F.AUDIO(L)
GND
F.AUDIO(R)
GND
FRONT_VIDEO
ONLY USED
FOR HR-S9600EU
CN7001
RCU5V
OPE_SW
REC SAFE
AL5V
S.CLK
S_DATA_TOSYS
S_DATA_FRSYS
STB
RC
GND
BUGND
DC(-)
DC(+)
-29V
CN7005
JSA/SHUTTLE_A
JSB/SHUTTLE_B
GND
SHUTTLE(L)/NC
J2/JOG_A
J1/JOG_B
3 7 JOG
CN7002
LED4
LED3
LED2
LED1
GND
ENB(L)
RC
FRAL5V
MEMBRANE DOOR
2 8 SW/DISPLAY
CN7191
F.AUDIO(L)
GND
F.AUDIO(R)
GND
FRONT VIDEO
GND
GND
OPEN
CN7192
GND
FRONT_C_IN
GND
FRONT_Y_IN
3 6 JACK
J7191
J7192
J7193
J7194
VIDEO
AUDIO(L)
AUDIO(R)
S_IN
FRONT IN
ONLY USED
FOR HR-S8600EU
ONLY USED
FOR HR-S9600EU
CN7192
GND
FRONT_C_IN
GND
FRONT_Y_IN
J7191
J7192
J7193
J7194
VIDEO
AUDIO(L)
AUDIO(R)
S_IN
FRONT IN
FW7001
REC. SAFE
GND
FW7001
3 2
REC SAFETY

4.2 VIDEO/N.AUDIO SCHEMATIC DIAGRAM

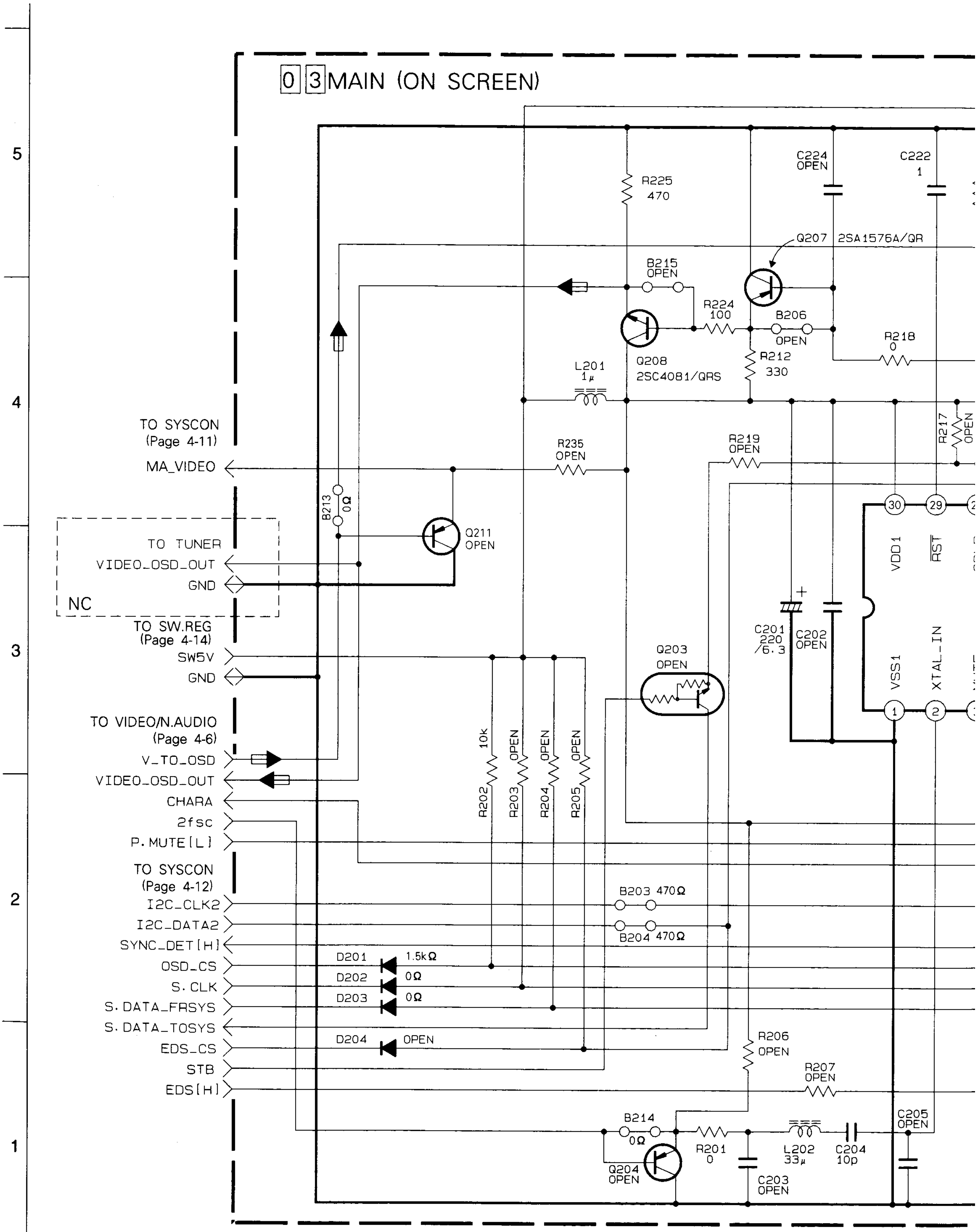

03 MAIN [VIDEO/N. AUDIO]
OPEN
TO C BOX CTL (Page 4-17)
TO SYSCON (Page 4-11)
TO SYSCON (Page 4-11)
PAL_NTSC[L]
FRONT[H]
REAR[H]
TO SYSCON (Page 4-11)
SP_SHORT[H]
LP_SHORT[H]
TO TERMINAL(MAIN) (Page 4-20)
PAL_NTSC[L]
FRONT[L]
GND
REAR[L]
TO SW.REG (Page 4-14)
SW5V
SW12V
GND
TO U. DRUM CN1
FLY.E
FMA.CH2
FMA.CH1
SP.CH2
SP.CH1
LP.CH2
LP.CH1
TO FMA (Page 4-10)
FMA_CH1
FMA_COM
FMA_CH2
GND
TO SYSCON (Page 4-11, 4-12)
FLY. ON[H]
FLY. REC[H]
FULL_E_ON[H]
N. REC[H]
A. MUTE[H]
A. REC_ST[H]
CTL[+]
CTL[-]
GND
TO A/C HEAD CN2001
P/R
A. E
CTL
TO FULL-ERASE HEAD CN2002
F.E
TO TUNER (Page 4-16)
GND
TU_AUDIO
TO FMA (Page 4-9)
NA_REC
NA_PB
2fsc
SW5V
PB_AUDIO
GND
VSC_AUDIO
GND
TO VSC (Page 4-21)
VSC_EXP1
VSC_CLK
VSC_DATA
TO SYSCON (Page 4-12)
VSC_DATA
VSC_CLK
TP2033 A.E
TP2034 F.E
T2051
T2052
Q2051 2SC4081/QRS
Q2052 2SA1576A/QR
Q2053 UN521E
Q2054 2SA1576A/QR
Q2055 UN521E
Q2062 2SA1576A/QR
Q2063 UN521E
Q2081 2SC4081/QRS
Q401 2SA1576A/QR
Q402 UN521E
Q403 UN521E
Q404 2SA1576A/QR
Q405 2SA1576A/QR
Q13,Q14 : 2SD1819A/QRS
Q15 : 2SB1218A/QR
Q16 : UN511E
Q17 : UN521E
Q152 : 2SB1218A/QR
IC1 JCP8017-MSA
IC2 NM1115XF
IC3 OPEN
Q47 2SK433/D
TP106 V.PB FM
TP111 D.FF
WF1
WF2
WF3
WF11
WF12
WF13
WF14
D16 DA204U
D17 DA204U
D24 DA204U
D25 OPEN
B43 SHORT
TO SHILD
Q2001 2SC4081/QRS
Q2002 2SC4081/QRS
Q2003 UN511E
Q2102 DTC144WUA
C2101 4.7
D.FF
CNR_CTL
PAL-N_TRICK[L]
REAR[L]/PAL_NTSC[L]
SECAM[H]
S-P[H]
SK[L]
KILLER_OUT
R-Y_REV
REC.C_OUT
V_TO_OSD
N.TRICK[L]
SECAM_TRICK[H]
FRONT[L]
COL
CCD
AUDIO
P/R
Y
PAL-N_SREC[L]

NOTE : For VIDEO/N.AUDIO waveforms, please refer to page 4-23.

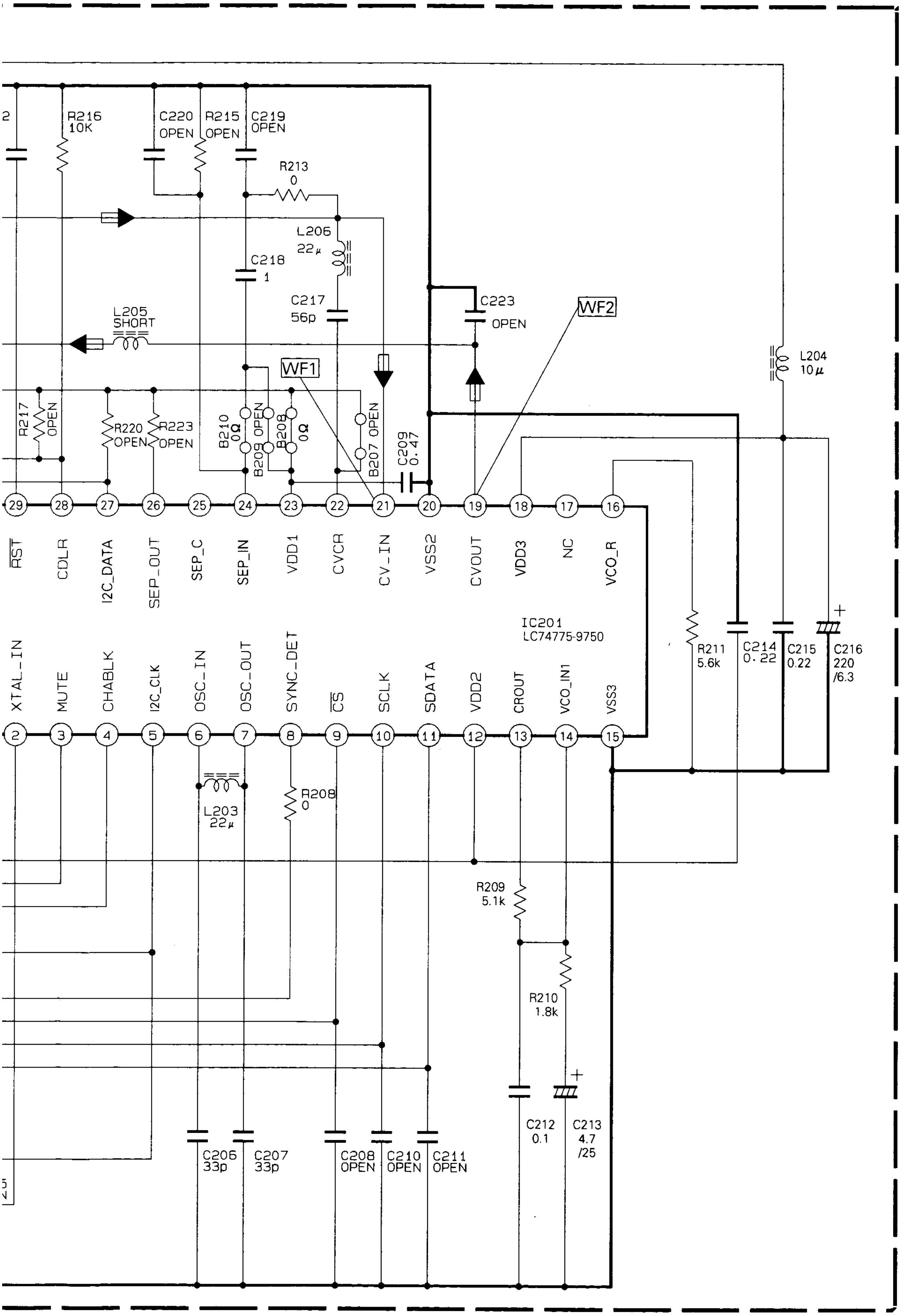
A B C D


TO SYSCON
(Page 4-11, 4-12)
NOM/MESEC/S
I2C_CLK
SP[H]/S_PB[H]
I2C_DATA
SECAM_TRICK[H]
S-P[H]/V.STB[L]
SECAM[H]/PALON_M[L]
EE[L]
R-Y_REV/PAL_EP_CTL
V.P_CTL
TRICK[H]/M_TRICK[L]
3.58NTSC[H]/CCIR[L]
GR_ON[H]/CNR_CTL
NA_DET
V.STB[L]
FRONT[L]
TRICK[H]
SECAM[H]/ET_REC_A[H]/PAL_ON_M[L]/ET_REC_B[H]
SECAM_TRICK[H]
ACC_DET
WF14
WF3
WF4
WF5
WF6
WF7
WF8
WF9
WF10
2SD1819A/QRS
2SK433/D
UN521E
2SB1218A/QR
2SC3936/SC
CNR_OUT
C.SYNC
S_PB[H]
Y_TO_SUB
PAL_ON_M[L]
FRONT_VIDEO
TU_VIDEO
S-VHS[L]
TU_V_MUTE[H]
ET_REC[H]
SP[H]
ET_REC_A[H]/ET_REC_B[H]
SECAM[H]
LINE_VIDEO
BS_VIDEO/FRONT_VIDEO
LINE_VIDEO
CCIR[L]
ACC_DET
TO SYSCON
(Page 4-11)
CNR[H]/MESEC_CK[L]
SLOW_P
TO 3D SVHS(VIDEO)
CN1001
(Page 4-27)
CN101
1 V.P_CTL
2 D.FF(V)
3 I2C_DATA
4 SLOW_P
5 I2C_CLK
6 TRICK(H)
7 NC
8 LBOX(H)
9 VREF
10 NC
11 GND(D)
12 GND(D)
13 SW5V(2)
14 SW5V(2)
15 MESECAM_CK[L]/CNR_ON[H]
16 CK
17 C.SYNC
18 3.58NTSC[H]
19 fsc
20 SECAM[H]
21 V.PULSE
22 PB_C_OUT
23 V.STB[L]
24 R_Y1_IN
25 DOC
26 R_C1_IN
27 REAR1[L]/PAL_NTSC[L]
28 NC
29 FRONT[L]
30 LINE_V_IN/R_V1_IN
TO SW.REG
(Page 4-14)
SW5V[2]
TO SYSCON
(Page 4-11, 4-12)
C.SYNC/VREF
V.PULSE
P.MUTE[L]
D.FF
HEAD_SEL
TO SYSCON
(Page 4-11)
MA_AUDIO
NA_REC
TO ON SCREEN
(Page 4-7)
2fsc
V_TO_OSD
CHARA
P.MUTE[L]
VIDEO_OSD_OUT
TO TERMINAL(MAIN)
(Page 4-20)
R_C1_IN
R_Y1_IN
VIDEO_OSD_OUT
R_Y2_IN
R_C2_IN
TO 3D SVHS(VIDEO)
CN1002
(Page 4-28)
CN102
1 R_V_IN/R_Y2_IN
2 CCIR[L]
3 F_V_IN/R_C2_IN
4 NA_DET
5 BS_IN/F_V_IN
6 GND
7 LINE/TU_V_IN
8 ME_ALC_DET
9 Y_TO_SUB
10 P.MUTE[L]
11 Y_TO_AV1
12 SVHS[L]
13 GND
14 GND
15 Y_FROM_AV1
16 GND
17 I2C_CLK
18 I2C_DATA
19 SW5V[2]
20 SW5V[2]
21 V_TO_OSD
22 GND
23 V_FROM_OSD
24 CHARA_DATA
25 BIAS_FOR_C_OUT
26 REC_C_OUT
27 ACC_DET/SW12V
28 Y_OUT
29 GND
30 C_OUT
TO SYSCON
(Page 4-11)
SB_G
ET_REC[H]
TO TERMINAL(MAIN)
(Page 4-20)
C_OUT
Y_OUT
BIAS_FOR_C_OUT
R_V1_IN
LINE_V_IN
F_V_IN
TUNER_VIDEO
SW12
GND
GR_VIDEO
BS_VIDEO
TU_VIDEO
TO C.BOX CTL
(Page 4-17)
TU_VIDEO
VIDEO_OSD_OUT
TO TUNER
(Page 4-16)

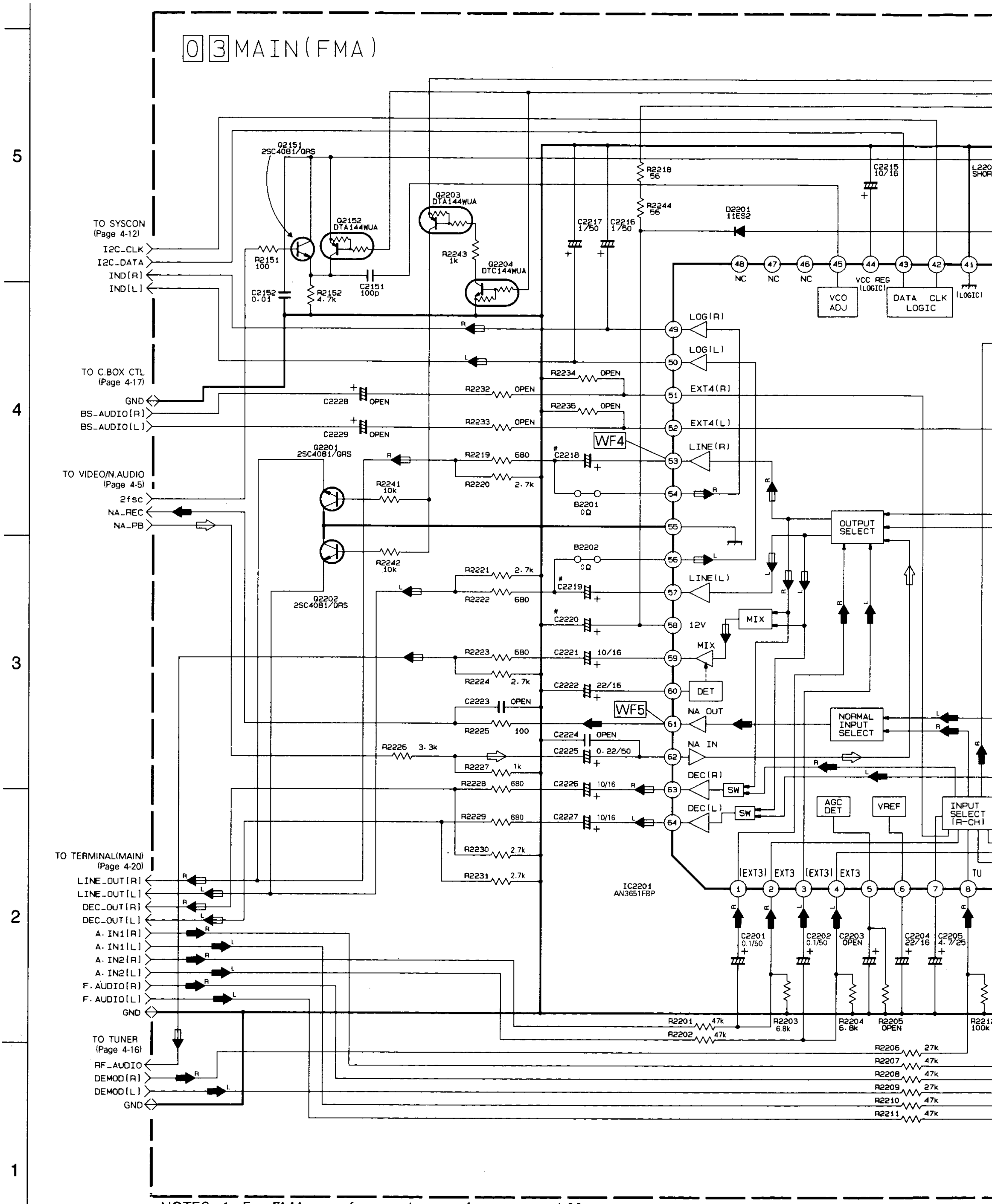
4.3 ON SCREEN SCHEMATIC DIAGRAM


0 3 MAIN (ON SCREEN)
5
4
3
2
1
TO SYSCON
(Page 4-11)
MA_VIDEO
TO TUNER
VIDEO_OSD_OUT
GND
NC
TO SW.REG
(Page 4-14)
SW5V
GND
TO VIDEO/N.AUDIO
(Page 4-6)
V_TO_OSD
VIDEO_OSD_OUT
CHARA
2fsc
P.MUTE[L]
TO SYSCON
(Page 4-12)
I2C_CLK2
I2C_DATA2
SYNC_DET[H]
OSD_CS
S.CLK
S.DATA_FRSYS
S.DATA_TOSYS
EDS_CS
STB
EDS[H]
R225
470
C224
OPEN
C222
1
Q207 2SA1576A/QR
B215
OPEN
R224
100
B206
OPEN
R218
0
Q208
2SC4081/QRS
L201
1μ
R212
330
R217
OPEN
R235
OPEN
R219
OPEN
B213
0Ω
Q211
OPEN
30
29
VDD1
RST
C201
220
/6.3
C202
OPEN
XTAL_IN
VSS1
1
2
Q203
OPEN
10k
OPEN
OPEN
OPEN
R202
R203
R204
R205
B203 470Ω
B204 470Ω
D201 1.5kΩ
D202 0Ω
D203 0Ω
D204 OPEN
R206
OPEN
R207
OPEN
B214
0Ω
Q204
OPEN
R201
0
L202
33μ
C204
10p
C205
OPEN
C203
OPEN
A
B
C
D

NOTE: For ON SCREEN waveforms, please refer to page 4-23.


2
R216
10K
C220
OPEN
R215
OPEN
C219
OPEN
R213
0
L206
22μ
C218
1
C217
56p
C223
OPEN
WF2
L205
SHORT
WF1
L204
10μ
R217
OPEN
R220
OPEN
R223
OPEN
B210
0Ω
B209
OPEN
B208
0Ω
B207
OPEN
C209
0.47
29
28
27
26
25
24
23
22
21
20
19
18
17
16
RST
CDLR
I2C_DATA
SEP_OUT
SEP_C
SEP_IN
VDD1
CVCR
CV_IN
VSS2
CVOUT
VDD3
NC
VCO_R
IC201
LC74775-9750
R211
5.6k
C214
0.22
C215
0.22
C216
220
/6.3
XTAL_IN
MUTE
CHABLK
I2C_CLK
OSC_IN
OSC_OUT
SYNC_DET
CS
SCLK
SDATA
VDD2
CROUT
VCO_IN1
VSS3
2
3
4
5
6
7
8
9
10
11
12
13
14
15
L203
22μ
R208
0
R209
5.1k
R210
1.8k
C212
0.1
C213
4.7
/25
C206
33p
C207
33p
C208
OPEN
C210
OPEN
C211
OPEN

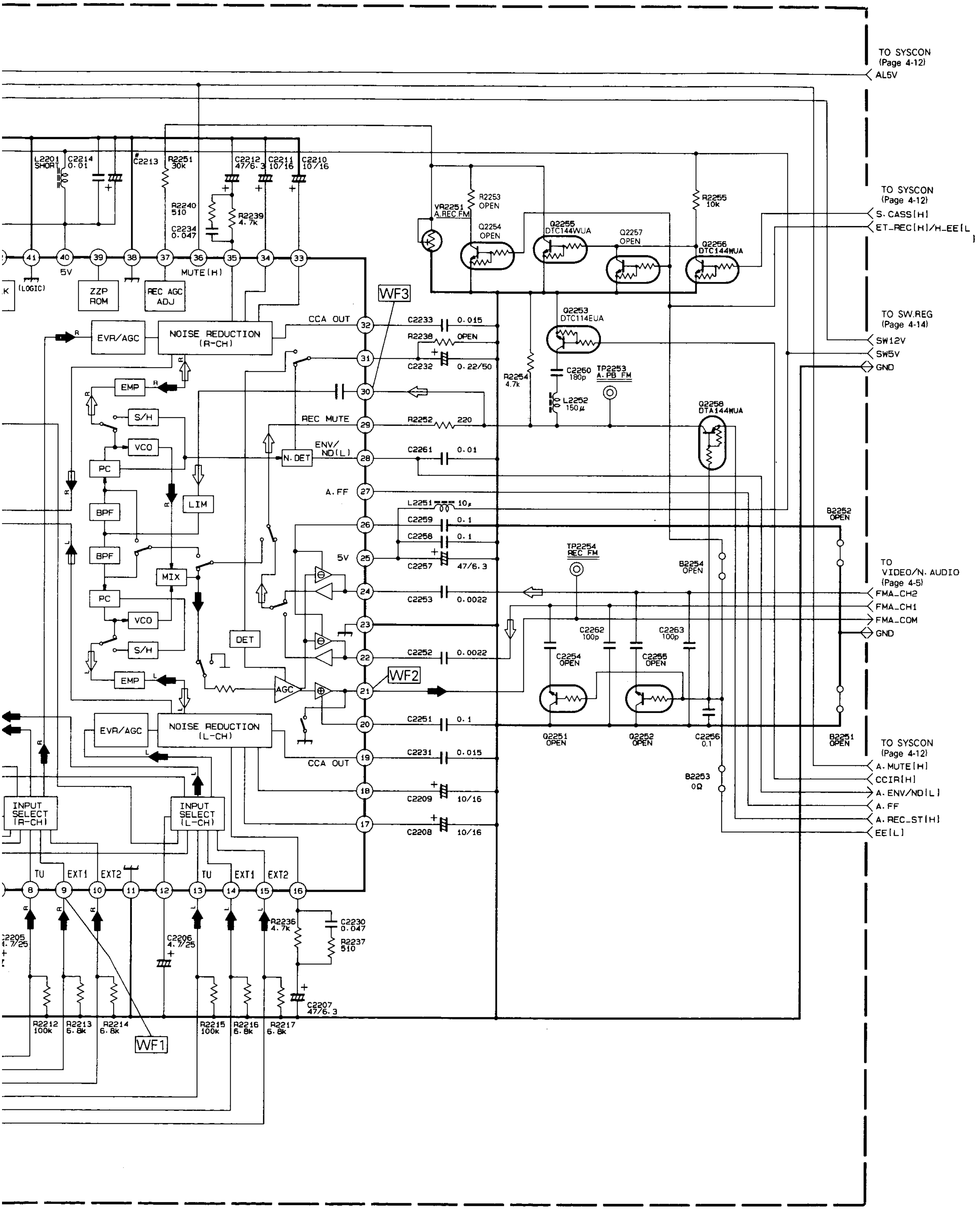
4.4 FMA SCHEMATIC DIAGRAM



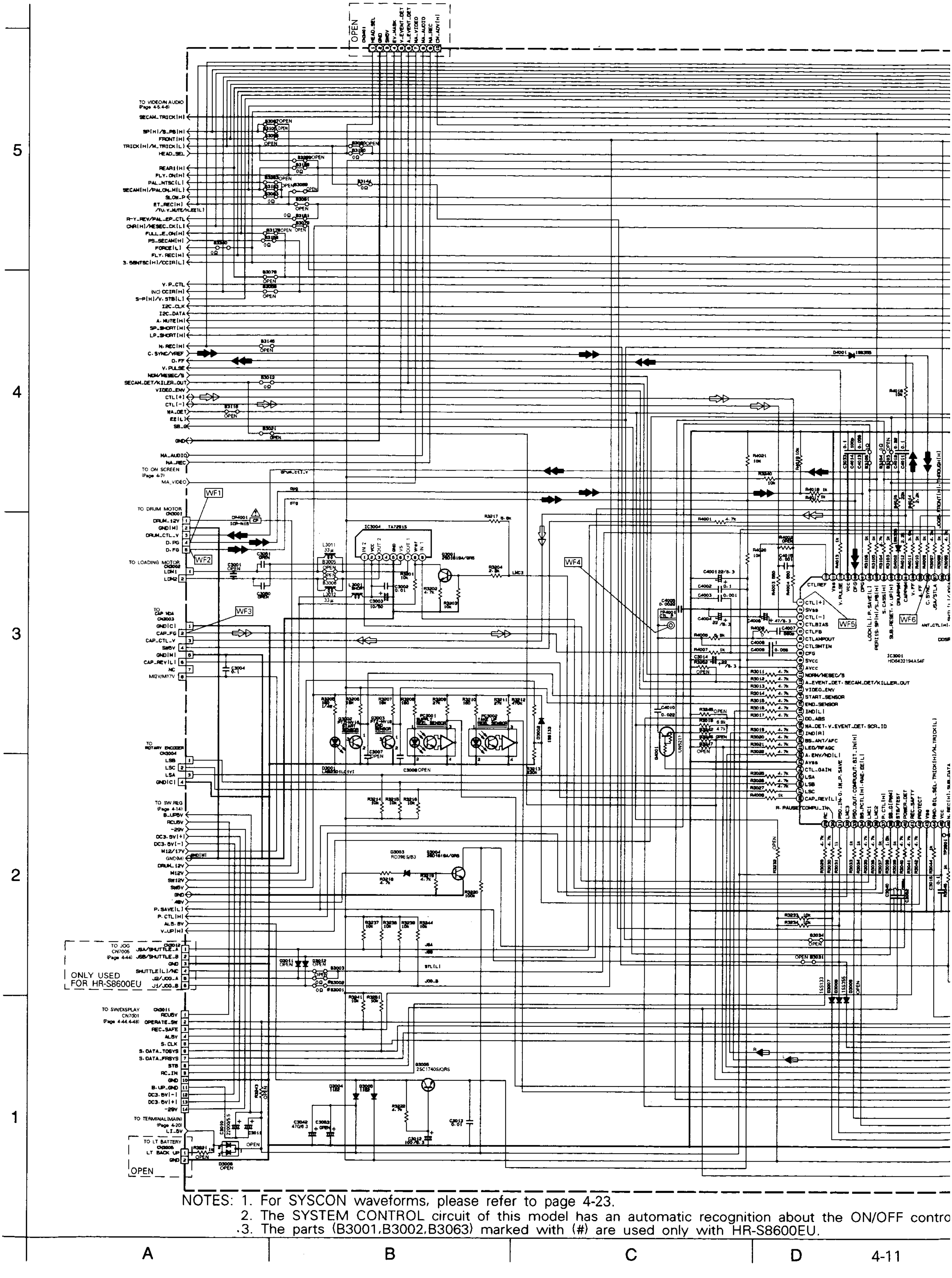
03 MAIN(FMA)
TO SYSCON (Page 4-12)
I2C_CLK
I2C_DATA
IND(R)
IND(L)
TO C.BOX CTL (Page 4-17)
GND
BS_AUDIO(R)
BS_AUDIO(L)
TO VIDEO/N.AUDIO (Page 4-5)
2fsc
NA_REC
NA_PB
TO TERMINAL(MAIN) (Page 4-20)
LINE_OUT(R)
LINE_OUT(L)
DEC_OUT(R)
DEC_OUT(L)
A. IN1(R)
A. IN1(L)
A. IN2(R)
A. IN2(L)
F. AUDIO(R)
F. AUDIO(L)
GND
TO TUNER (Page 4-16)
RF_AUDIO
DEMOD(R)
DEMOD(L)
GND
Q2151 2SC4081/QRS
Q2152 DTA144WUA
Q2203 DTA144WUA
Q2204 DTC144WUA
Q2201 2SC4081/QRS
Q2202 2SC4081/QRS
R2151 100
C2152 0.01
R2152 4.7k
C2151 100p
R2243 1k
R2218 56
R2244 56
C2217 1/50
C2216 1/50
D2201 11ES2
C2215 10/16
WF4
WF5
IC2201 AN3651FBP
LOG(R)
LOG(L)
EXT4(R)
EXT4(L)
LINE(R)
LINE(L)
12V
MIX
DET
NA OUT
NA IN
DEC(R)
DEC(L)
SW
VCO ADJ
VCC REG (LOGIC)
DATA CLK LOGIC
(LOGIC)
OUTPUT SELECT
NORMAL INPUT SELECT
AGC DET
VREF
INPUT SELECT (R-CH)
NC
(EXT3)
EXT3
TU
R2234 OPEN
R2232 OPEN
R2235 OPEN
R2233 OPEN
C2228 OPEN
C2229 OPEN
R2219 680
R2220 2.7k
C2218
B2201 0Ω
B2202 0Ω
R2241 10k
R2242 10k
R2221 2.7k
R2222 680
C2219
C2220
R2223 680
R2224 2.7k
C2221 10/16
C2222 22/16
C2223 OPEN
R2225 100
C2224 OPEN
C2225 0.22/50
R2226 3.3k
R2227 1k
R2228 680
C2226 10/16
R2229 680
C2227 10/16
R2230 2.7k
R2231 2.7k
C2201 0.1/50
C2202 0.1/50
C2203 OPEN
C2204 22/16
C2205 4.7/25
R2201 47k
R2202 47k
R2203 6.8k
R2204 6.8k
R2205 OPEN
R2206 27k
R2207 47k
R2208 47k
R2209 27k
R2210 47k
R2211 47k
A
B
C
D
1
2
3
4
5

NOTES: 1. For FMA waveforms, please refer to page 4-23.
2. Comparison chart of models & marks(#).

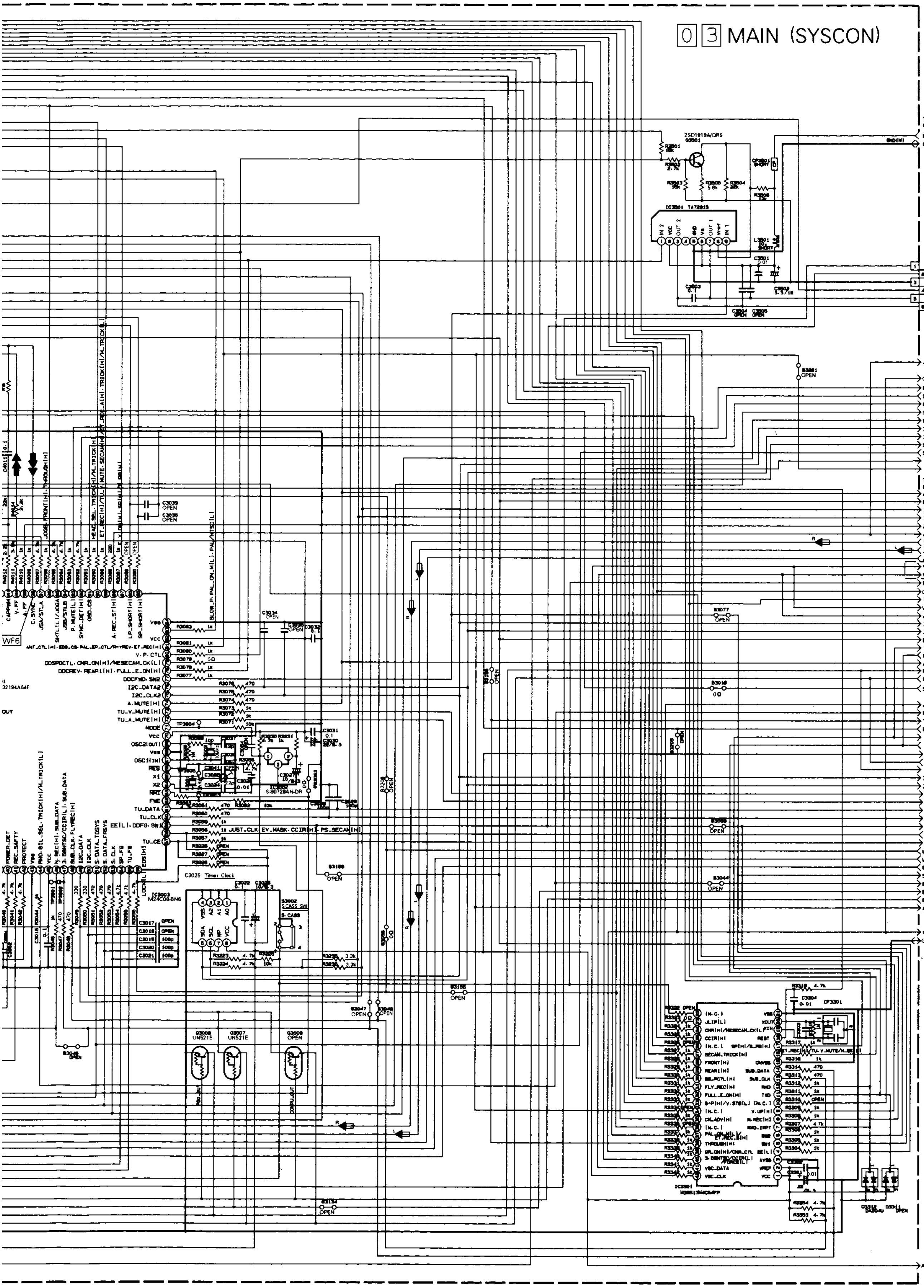
	REF.NO.	C2213	C2218 C2219	C2220
MODEL	HR-S8600EU	47µF/6.3V	10µF/16V	47µF/16V
	HR-S9600EU	47µF/25V	22µF/25V	47µF/25V


TO SYSCON
(Page 4-12)
AL5V
TO SYSCON
(Page 4-12)
S.CASS[H]
ET_REC[H]/H_EE[L]
TO SW.REG
(Page 4-14)
SW12V
SW5V
GND
TO VIDEO/N.AUDIO
(Page 4-5)
FMA_CH2
FMA_CH1
FMA_COM
GND
TO SYSCON
(Page 4-12)
A.MUTE[H]
CCIR[H]
A.ENV/ND[L]
A.FF
A.REC_ST[H]
EE[L]
L2201 SHORT
C2214 0.01
C2213
R2251 30k
C2212 47/6.3
C2211 10/16
C2210 10/16
R2240 510
R2239 4.7k
C2234 0.047
5V
MUTE[H]
(LOGIC)
ZZP ROM
REC AGC ADJ
VR2251 A.REC FM
R2253 OPEN
Q2254 OPEN
Q2255 DTC144WUA
Q2257 OPEN
R2255 10k
Q2256 DTC144WUA
Q2253 DTC114EUA
R2254 4.7k
C2260 180p
TP2253 A.PB FM
L2252 150μ
Q2258 DTA144WUA
WF3
CCA OUT
NOISE REDUCTION (R-CH)
EVR/AGC
C2233 0.015
R2238 OPEN
C2232 0.22/50
EMP
S/H
VCO
PC
BPF
LIM
MIX
DET
N.DET
REC MUTE
R2252 220
ENV/ND[L]
C2261 0.01
A.FF
L2251 10μ
C2259 0.1
C2258 0.1
C2257 47/6.3
C2253 0.0022
C2252 0.0022
AGC
WF2
C2251 0.1
C2231 0.015
C2209 10/16
C2208 10/16
TP2254 REC FM
B2252 OPEN
B2254 OPEN
C2262 100p
C2263 100p
C2254 OPEN
C2255 OPEN
Q2251 OPEN
Q2252 OPEN
C2256 0.1
B2251 OPEN
B2253 0Ω
NOISE REDUCTION (L-CH)
INPUT SELECT (R-CH)
INPUT SELECT (L-CH)
TU
EXT1
EXT2
R2236 4.7k
C2230 0.047
R2237 510
C2205 4.7/25
C2206 4.7/25
C2207 47/6.3
R2212 100k
R2213 6.8k
R2214 6.8k
R2215 100k
R2216 6.8k
R2217 6.8k
WF1
R
L
41
40
39
38
37
36
35
34
33
32
31
30
29
28
27
26
25
24
23
22
21
20
19
18
17
16
15
14
13
12
11
10
9
8

4.5 SYSTEM CONTROL SCHEMATIC DIAGRAM


OPEN
CN3401
HEAD_SEL
GND
SW5V
EV_MASK
V_EVENT_DET
A_EVENT_DET
MA_VIDEO
MA_AUDIO
MA_REC
CM_ADV(H)
TO VIDEO/N.AUDIO
SECAM_TRICK(H)
SP(H)/S_PB(H)
FRONT(H)
TRICK(H)/M_TRICK(L)
HEAD_SEL
REAR1(H)
FLY.ON(H)
PAL_NTSC(L)
SECAM(H)/PALON_M(L)
SLOW_P
ET_REC(H)
R-Y_REV/PAL_EP_CTL
CNR(H)/MESEC_CK(L)
FULL_E_ON(H)
PS_SECAM(H)
FORCE(L)
FLY.REC(H)
V.P_CTL
I2C_CLK
I2C_DATA
A.MUTE(H)
SP_SHORT(H)
LP_SHORT(H)
N.REC(H)
C.SYNC/VREF
D.FF
V.PULSE
NOM/MESEC/S
SECAM_DET/KILER_OUT
VIDEO_ENV
CTL(+)
CTL(-)
MA_DET
EE(L)
SB_CK
GND
MA_AUDIO
MA_REC
TO ON SCREEN
MA_VIDEO
WF1
TO DRUM MOTOR
DRUM_12V
GND(M)
DRUM_CTL_V
D.PG
D.FG
WF2
TO LOADING MOTOR
LDM1
LDM2
IC3004 TA7291S
WF3
TO CAP MDA
GND(C)
CAP_FG
CAP_CTL_V
SW5V
GND(M)
CAP_REV(L)
NC
M12V/M17V
WF4
WF5
WF6
IC3001 HD6432194A54F
TO ROTARY ENCODER
LSB
LSC
LSA
GND(C)
TO SW.REG
B_UP5V
RCU5V
-29V
DC3.5V(+)
DC3.5V(-)
M12/17V
GND(M)
DRUM_12V
M12V
SW12V
SW5V
GND
A5V
P.SAVE(L)
P.CTL(H)
AL5.5V
V_UP(H)
TO JOG
JSA/SHUTTLE_A
JSB/SHUTTLE_B
GND
SHUTTLE(L)/NC
J2/JOG_A
J1/JOG_B
ONLY USED FOR HR-S8600EU
TO SW/DISPLAY
RCU5V
OPERATE_SW
REC_SAFE
AL5V
S.CLK
S.DATA_TOSYS
S.DATA_FRSYS
STB
RC_IN
GND
B.UP_GND
DC3.5V(-)
DC3.5V(+)
-29V
TO TERMINAL(MAIN)
LT_5V
TO LT BATTERY
LT BACK UP
GND
OPEN
5
4
3
2
1
A
B
C
D

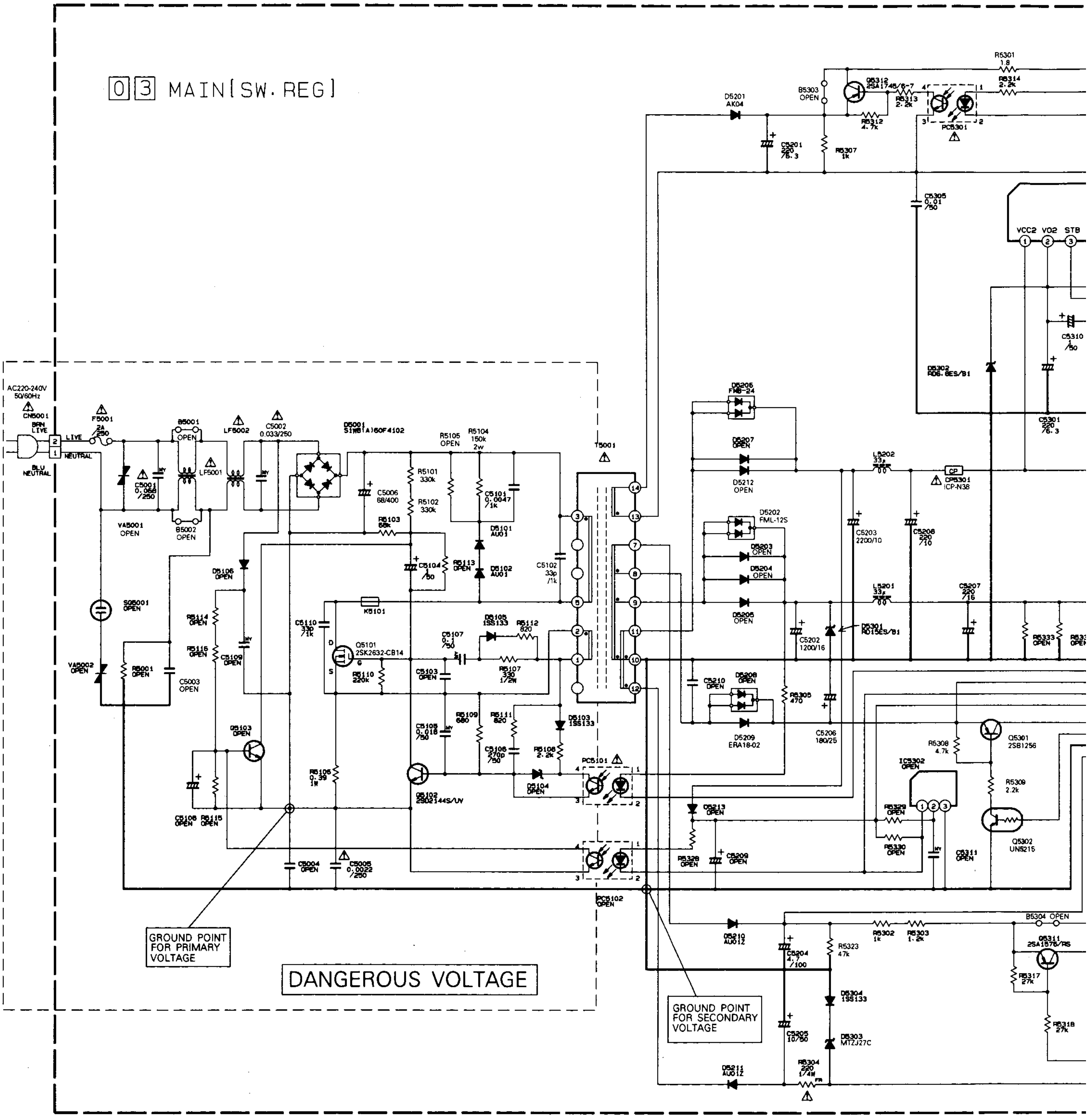
NOTES: 1. For SYSCON waveforms, please refer to page 4-23.
2. The SYSTEM CONTROL circuit of this model has an automatic recognition about the ON/OFF contro
.3. The parts (B3001,B3002,B3063) marked with (#) are used only with HR-S8600EU.

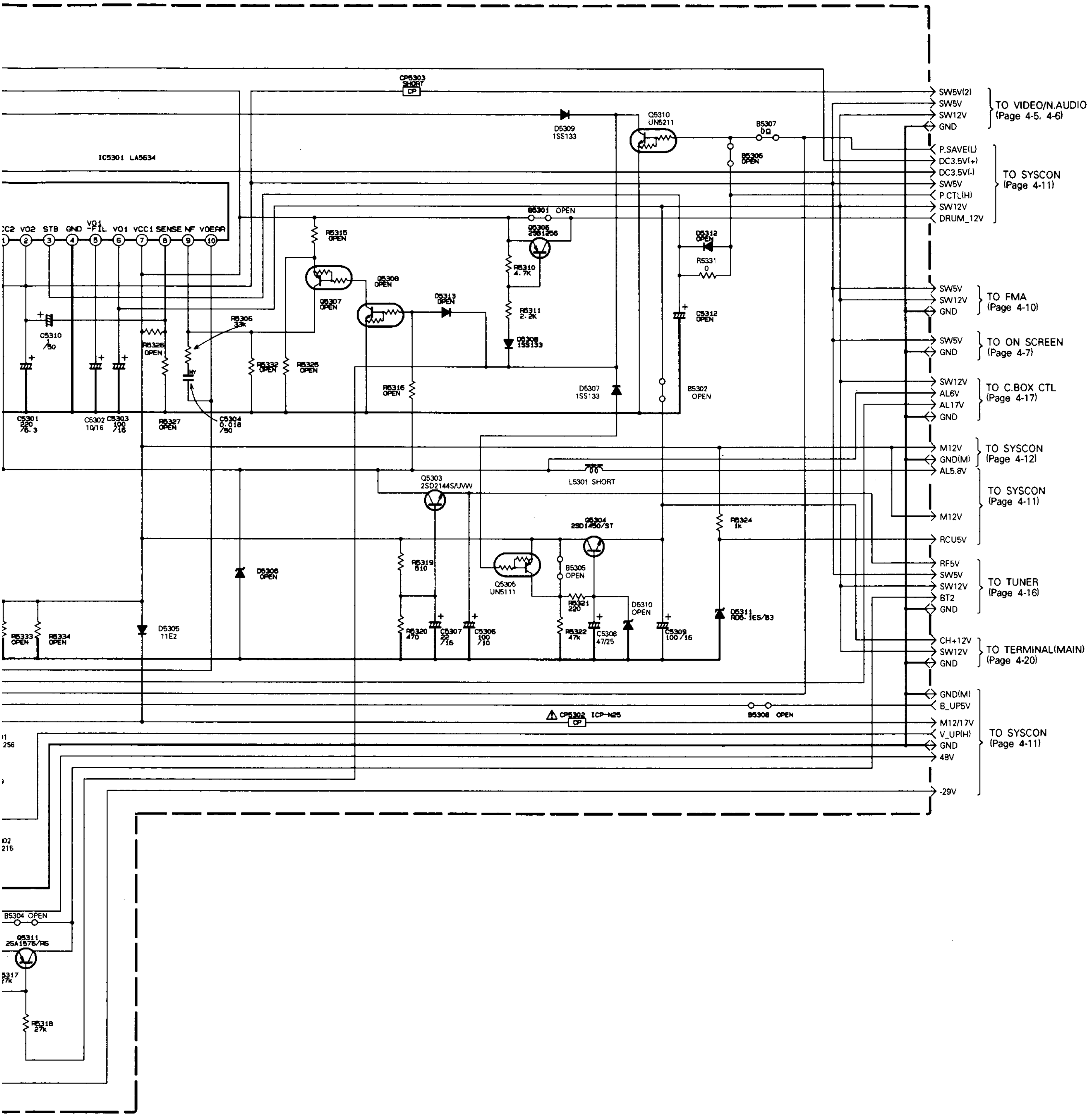

03 MAIN (SYSCON)

TO SW.REG (Page 4-14)
M12V
GND(M)
2SD1819A/QRS Q3501
IC3501 TA7291S
CN3501
DD_ABS
DD_MFG
GND
SW5V
DDM_FWD
DDM
TO VIDEO/H AUDIO (Page 4-5,4-6)
A.REC_ST(H)
GR_ON(H)/CNR_CTL
P.MUTE(L)
SYNC_DET(H)
OSD_CS
S.DATA_FRSYS
S.CLK
I2C_CLK2
I2C_DATA2
STB
S.DATA_TOSYS
EDS(H)
EDS_CS
TO ON SCREEN (Page 4-7)
TO FMA (Page 4-9,4-10)
A.MUTE(H)
EE(L)
I2C_CLK
I2C_DATA
A.FF
A.REC_ST(H)
IND(R)
IND(L)
VSC_CLK
VSC_DATA
NC
S.CASS(H)
CCIR(H)
ET.REC(H)/H.EE(L)
TO VIDEO/H AUDIO (Page 4-5)
TO TERMINAL(MAIN) (Page 4-20)
TXD
RXD
A.MUTE(H) (NC)
P50_I/O
R.PAUSE/COMPU_IN
SCR(H)
JLIP(L)
RMO
THROUGH(H)
PERI15
TO C.BOX CTL (Page 4-18)
AL5V
TO TUNER (Page 4-15)
TU_V_MUTE(H)
TU_A_MUTE(H)
TU_DATA
TU_CLK
SW_1
JUST_CLK
TU_CE
LOCK(L)
LED/RF_AGC
BS_ANT/AFC
SW_2
BIL_SEL
BS_PCTL(H)
BIT_IN(H)
ANT_CTL(H)
GND
IC3301 M38813M4C64FP
CF3301
IC3003 M24C08-BN6
C3025 Timer Clock
S3002 S.CASS SW
IC3002 S-80728AN-DR
Q3006 UN521E
Q3007 UN521E
Q3009 UN521E
TO FMA (Page 4-10)
AL5V

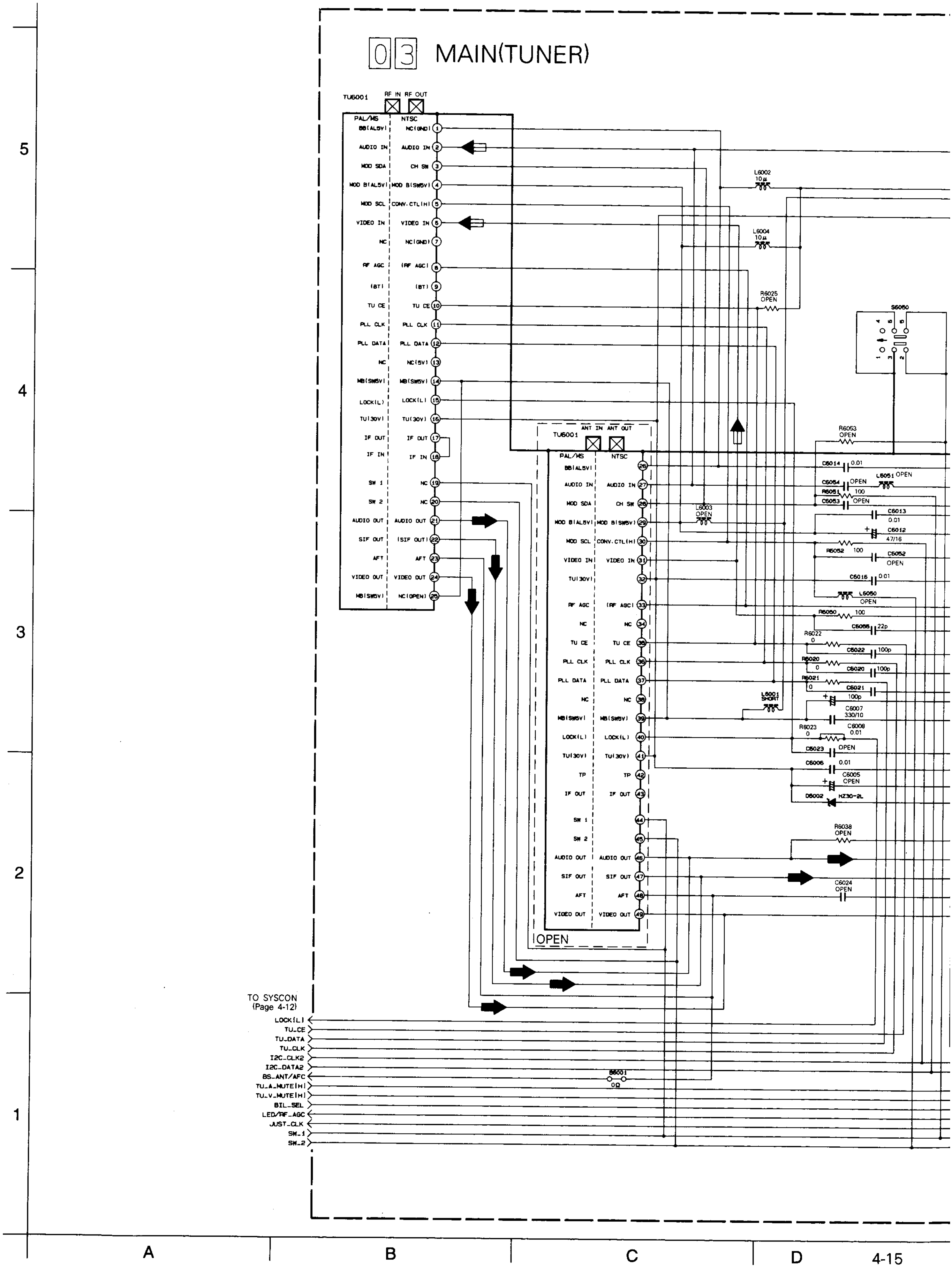
control of the DOCTOR SYSTEM.

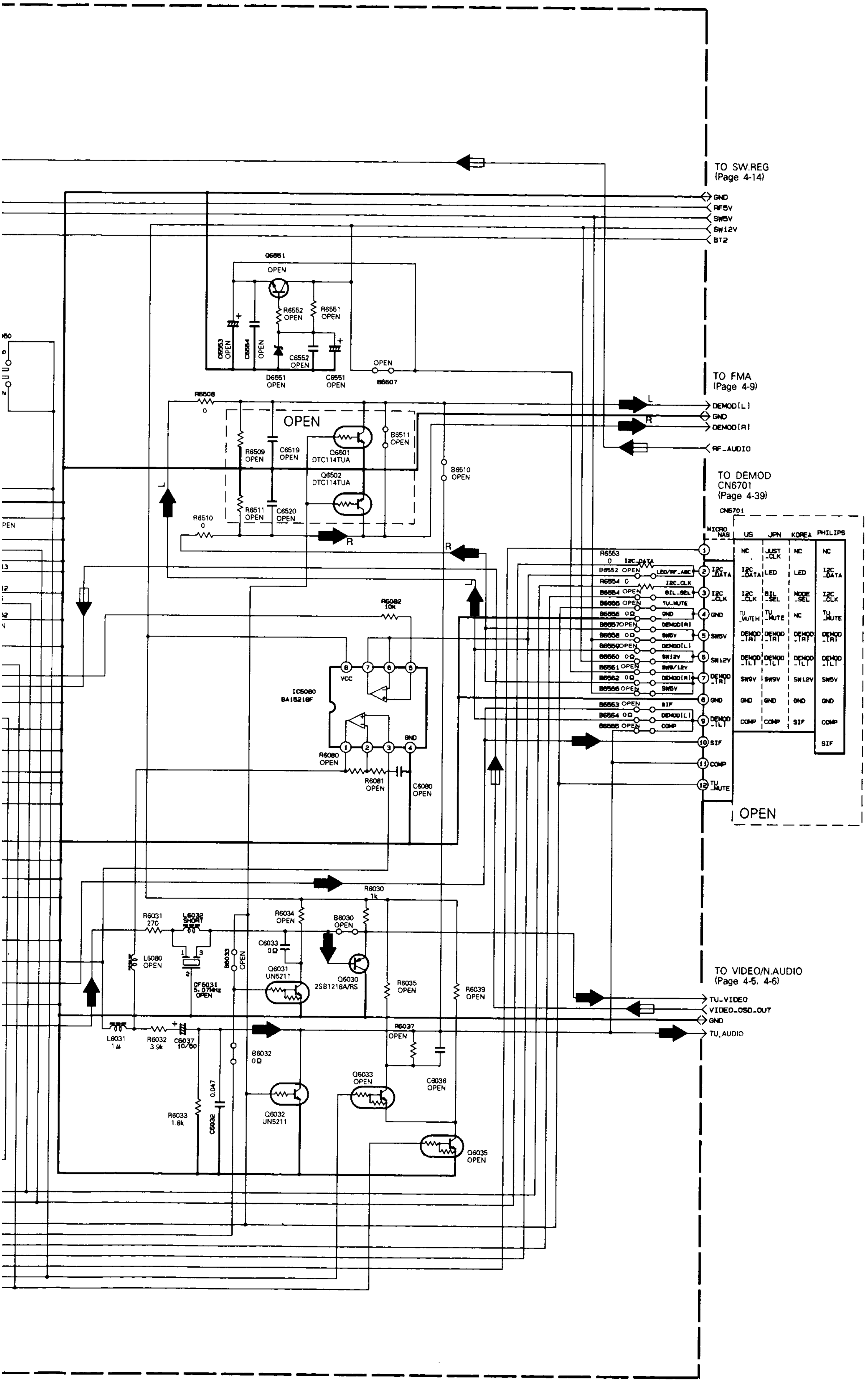
4.6 SWITCHING REGULATOR SCHEMATIC DIAGRAM


03 MAIN[SW.REG]
AC220-240V 50/60Hz
CN5001
BRN LIVE
BLU NEUTRAL
2
1
LIVE
NEUTRAL
F5001 2A /250
B5001 OPEN
LF5002
C5002 0.033/250
D5001 S1WB(A)60F4102
C5001 0.068 /250
MY
LF5001
VA5001 OPEN
B5002 OPEN
C5006 68/400
R5101 330k
R5102 330k
R5103 68k
R5105 OPEN
R5104 150k 2w
C5101 0.0047 /1k
D5101 AU01
D5102 AU01
R5113 OPEN
C5104 1 /50
C5102 33p /1k
T5001
D5106 OPEN
SG5001 OPEN
R5114 OPEN
R5116 OPEN
C5109 OPEN
K5101
C5110 330 /1k
Q5101 2SK2632-CB14
D G S
R5110 220k
C5107 0.1 /50
D5105 1SS133
R5112 820
R5107 330 1/2W
C5103 OPEN
VA5002 OPEN
R5001 OPEN
C5003 OPEN
Q5103 OPEN
C5108 OPEN
R5115 OPEN
R5106 0.39 1W
C5105 0.018 /50
R5109 680
R5111 820
C5106 270p /50
R5108 2.2k
D5103 1SS133
D5104 OPEN
Q5102 2SD2144S/UV
PC5101
C5004 OPEN
C5005 0.0022 /250
PC5102 OPEN
GROUND POINT FOR PRIMARY VOLTAGE
DANGEROUS VOLTAGE
14 13 7 8 9 11 10 12 3 5 2 1
D5201 AK04
C5201 220 /6.3
B5303 OPEN
R5307 1k
Q5312 2SA1748/6-7
R5312 4.7k
R5313 2.2k
PC5301
R5301 1.8
R5314 2.2k
C5305 0.01 /50
VCC2 VO2 STB
C5310 1 /50
D5302 RD6.8ES/B1
C5301 220 /6.3
D5205 FMB-24
D5207 OPEN
D5212 OPEN
L5202 33μ
CP
CP5301 ICP-N38
D5202 FML-12S
C5203 2200/10
C5208 220 /10
D5203 OPEN
D5204 OPEN
D5206 OPEN
L5201 33μ
C5207 220 /16
C5202 1200/16
D5301 RD15ES/B1
R5333 OPEN
C5210 OPEN
D5208 OPEN
D5209 ERA18-02
R5305 470
C5206 180/25
R5308 4.7k
Q5301 2SB1256
IC5302 OPEN
R5309 2.2k
R5329 OPEN
R5330 OPEN
C5311 OPEN
Q5302 UN5215
D5213 OPEN
R5328 OPEN
C5209 OPEN
D5210 AU01Z
C5204 4.7 /100
R5323 47k
R5302 1k
R5303 1.2k
B5304 OPEN
Q5311 2SA1576/RS
R5317 27k
R5318 27k
D5304 1SS133
D5303 MTZJ27C
C5205 10/50
D5211 AU01Z
R5304 220 1/4W FR
GROUND POINT FOR SECONDARY VOLTAGE
5
4
3
2
1
A
B
C
D

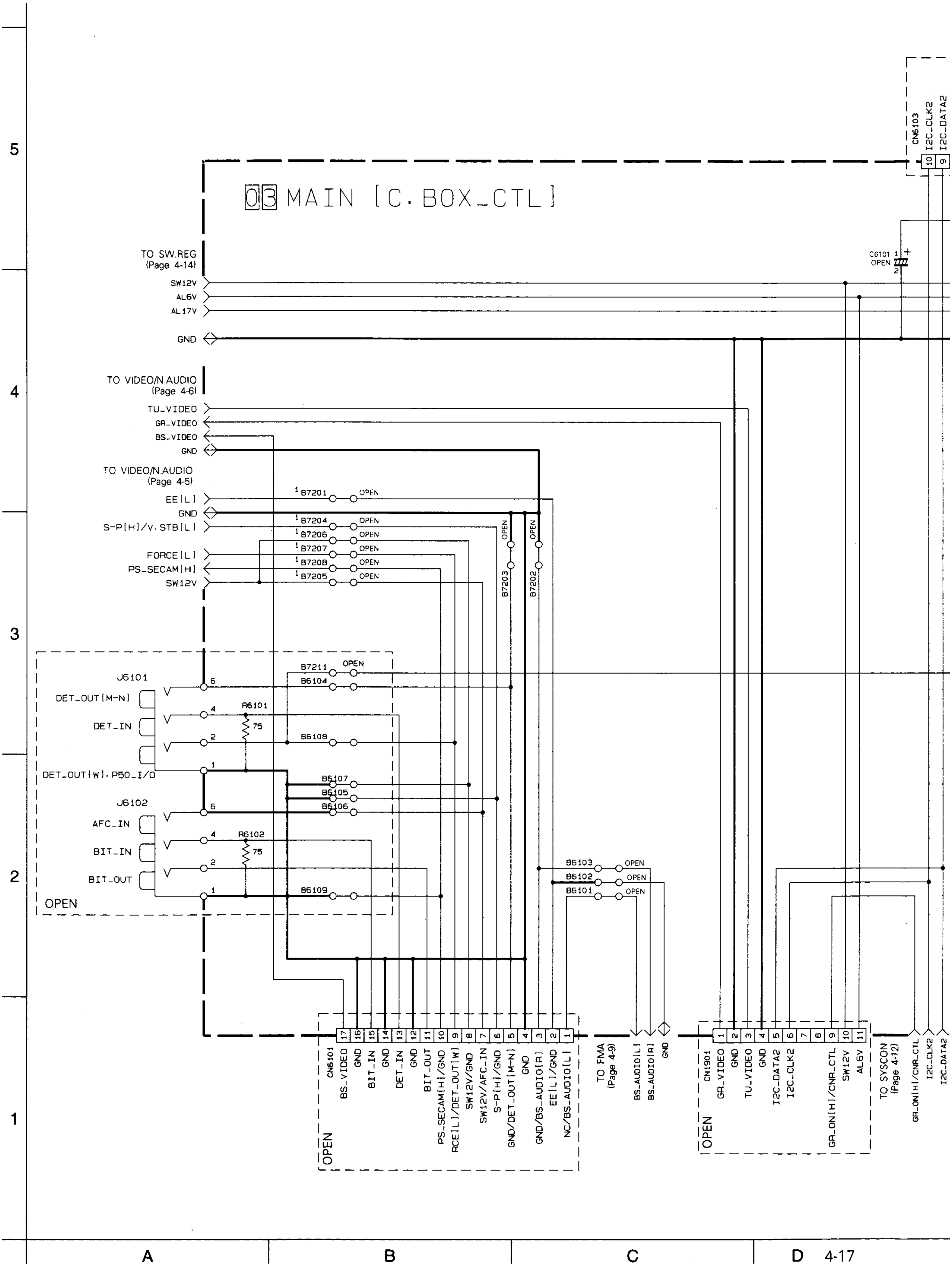

CP5303 SHORT
CP
D5309 1SS133
Q5310 UN5211
B5307 0Ω
B5306 OPEN
IC5301 LA5634
B5301 OPEN
Q5306 2SB1256
CC2 VO2 STB GND VO1-FIL VO1 VCC1 SENSE NF VOERR
1 2 3 4 5 6 7 8 9 10
R5315 OPEN
Q5308 OPEN
Q5307 OPEN
D5313 OPEN
R5310 4.7K
R5311 2.2K
D5308 1SS133
D5312 OPEN
R5331 0
C5312 OPEN
C5310 1/50
R5306 33k
R5326 OPEN
R5332 OPEN
R5325 OPEN
R5316 OPEN
D5307 1SS133
B5302 OPEN
C5301 220/6.3
C5302 10/16
C5303 100/16
R5327 OPEN
C5304 0.018/50
L5301 SHORT
Q5303 2SD2144S/UVW
Q5304 2SD1450/ST
R5324 1k
D5306 OPEN
R5319 510
B5305 OPEN
Q5305 UN5111
R5321 220
D5310 OPEN
D5311 RD5.1ES/B3
R5333 OPEN
R5334 OPEN
D5305 11E2
R5320 470
C5307 22/16
C5306 100/10
R5322 47k
C5308 47/25
C5309 100/16
CP5302 ICP-N25
CP
B5308 OPEN
256
02
215
B5304 OPEN
Q5311 2SA1576/RS
R5317 27k
R5318 27k
SW5V(2)
SW5V
SW12V
GND
TO VIDEO/N.AUDIO (Page 4-5, 4-6)
P.SAVE(L)
DC3.5V(+)
DC3.5V(-)
SW5V
P.CTL(H)
SW12V
DRUM_12V
TO SYSCON (Page 4-11)
SW5V
SW12V
GND
TO FMA (Page 4-10)
SW5V
GND
TO ON SCREEN (Page 4-7)
SW12V
AL6V
AL17V
GND
TO C.BOX CTL (Page 4-17)
M12V
GND(M)
TO SYSCON (Page 4-12)
AL5.8V
M12V
RCU5V
TO SYSCON (Page 4-11)
RF5V
SW5V
SW12V
BT2
GND
TO TUNER (Page 4-16)
CH+12V
SW12V
GND
TO TERMINAL(MAIN) (Page 4-20)
GND(M)
B_UP5V
M12/17V
V_UP(H)
GND
48V
-29V
TO SYSCON (Page 4-11)

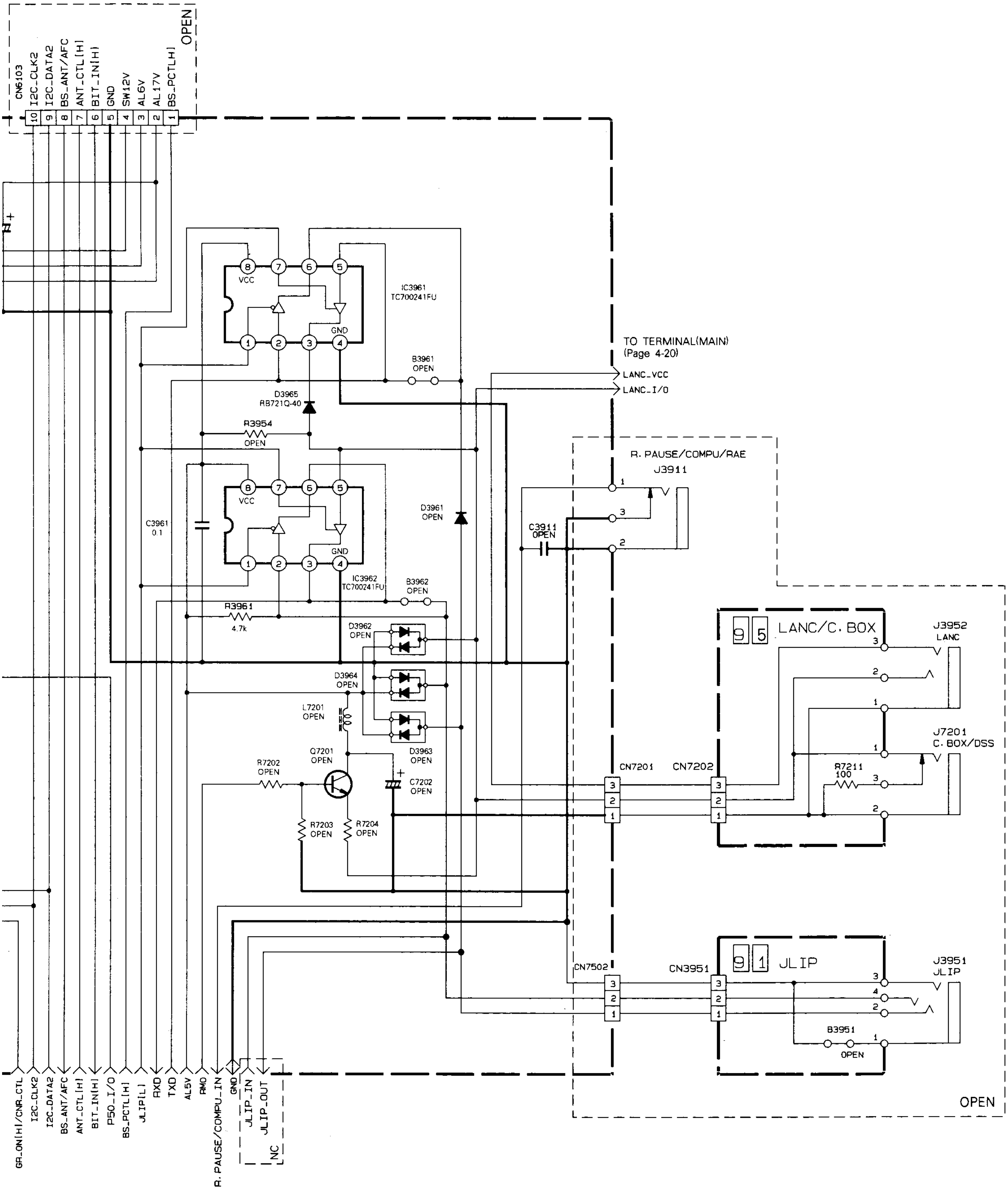
4.7 TUNER SCHEMATIC DIAGRAM


03 MAIN(TUNER)
TU6001
RF IN
RF OUT
PAL/MS
NTSC
BB(AL5V)
NC(GND)
AUDIO IN
MOD SDA
CH SW
MOD B(AL5V)
MOD B(SW5V)
MOD SCL
CONV.CTL(H)
VIDEO IN
NC
NC(GND)
RF AGC
(RF AGC)
(BT)
TU CE
PLL CLK
PLL DATA
NC(5V)
MB(SW5V)
LOCK(L)
TU(30V)
IF OUT
IF IN
SW 1
SW 2
AUDIO OUT
SIF OUT
(SIF OUT)
AFT
VIDEO OUT
NC(OPEN)
ANT IN
ANT OUT
TP
OPEN
L6002 10μ
L6004 10μ
R6025 OPEN
S6050
R6053 OPEN
C6014 0.01
C6054 OPEN
L6051 OPEN
R6051 100
C6053 OPEN
L6003 OPEN
C6013 0.01
C6012 47/16
R6052 100
C6052 OPEN
C6016 0.01
L6050 OPEN
R6050 100
C6066 22p
R6022 0
C6022 100p
R6020 0
C6020 100p
R6021 0
C6021 100p
L6001 SHORT
C6007 330/10
R6023 0
C6008 0.01
C6023 OPEN
C6006 0.01
C6005 OPEN
D6002 HZ30-2L
R6038 OPEN
C6024 OPEN
B6001 0Ω
TO SYSCON (Page 4-12)
LOCK(L)
TU_CE
TU_DATA
TU_CLK
I2C_CLK2
I2C_DATA2
BS_ANT/AFC
TU_A_MUTE(H)
TU_V_MUTE(H)
BIL_SEL
LED/RF_AGC
JUST_CLK
SW_1
SW_2
A
B
C
D
1
2
3
4
5

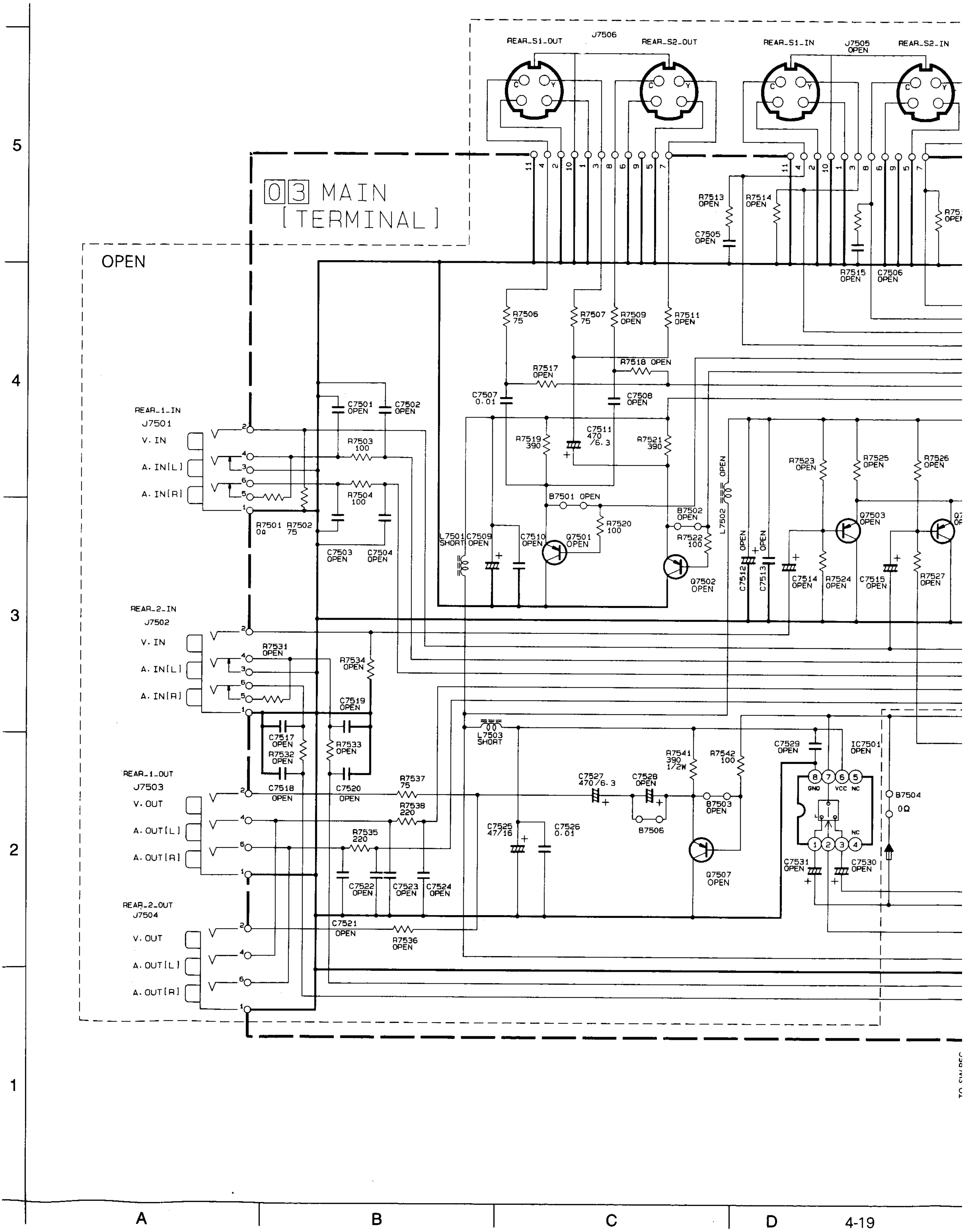

TO SW.REG
(Page 4-14)
GND
RF5V
SW5V
SW12V
BT2
Q6551
OPEN
R6552
OPEN
R6551
OPEN
C6553
OPEN
C6554
OPEN
C6552
OPEN
D6551
OPEN
C6551
OPEN
OPEN
B6607
TO FMA
(Page 4-9)
DEMOD[L]
GND
DEMOD[R]
RF_AUDIO
L
R
R6508
0
OPEN
R6509
OPEN
C6519
OPEN
Q6501
DTC114TUA
B6511
OPEN
Q6502
DTC114TUA
B6510
OPEN
R6511
OPEN
C6520
OPEN
R6510
0
R
R
TO DEMOD
CN6701
(Page 4-39)
CN6701
MICRO NAS
US
JPN
KOREA
PHILIPS
R6553
0
I2C_DATA
B6552 OPEN
LED/RF_ABC
R6554 0
I2C_CLK
B6554 OPEN
BIL_SEL
B6555 OPEN
TU_MUTE
B6556 0Ω
GND
B6557 OPEN
DEMOD[R]
B6558 0Ω
SW5V
B6559 OPEN
DEMOD[L]
B6560 0Ω
SW12V
B6561 OPEN
SW9/12V
B6562 0Ω
DEMOD[R]
B6566 OPEN
SW5V
B6563 OPEN
SIF
B6564 0Ω
DEMOD[L]
B6565 OPEN
COMP
1
2 I2C _DATA
3 I2C _CLK
4 GND
5 SW5V
6 SW12V
7 DEMOD _[R]
8 GND
9 DEMOD _[L]
10 SIF
11 COMP
12 TU _MUTE
NC
JUST _CLK
NC
NC
I2C _DATA
LED
LED
I2C _DATA
I2C _CLK
BIL _SEL
MODE _SEL
I2C _CLK
TU _MUTE[H]
TU _MUTE
NC
TU _MUTE
DEMOD _[R]
DEMOD _[R]
DEMOD _[R]
DEMOD _[R]
DEMOD _[L]
DEMOD _[L]
DEMOD _[L]
DEMOD _[L]
SW9V
SW9V
SW12V
SW5V
GND
GND
GND
GND
COMP
COMP
SIF
COMP
SIF
OPEN
R6082
10k
IC6080
BA15218F
VCC
GND
8
7
6
5
1
2
3
4
R6080
OPEN
R6081
OPEN
C6080
OPEN
R6030
1k
R6031
270
L6032
SHORT
R6034
OPEN
B6030
OPEN
C6033
0Ω
L6080
OPEN
1
3
2
B6033
OPEN
Q6031
UN5211
CF6031
5.07MHz
OPEN
Q6030
2SB1218A/RS
R6035
OPEN
R6039
OPEN
TO VIDEO/N.AUDIO
(Page 4-5, 4-6)
TU_VIDEO
VIDEO_OSD_OUT
GND
TU_AUDIO
L6031
1μ
R6032
3.9k
C6037
10/50
R6037
OPEN
B6032
0Ω
C6036
OPEN
Q6033
OPEN
0.047
C6032
R6033
1.8k
Q6032
UN5211
Q6035
OPEN

4.8 C.BOX CTL SCHEMATIC DIAGRAM

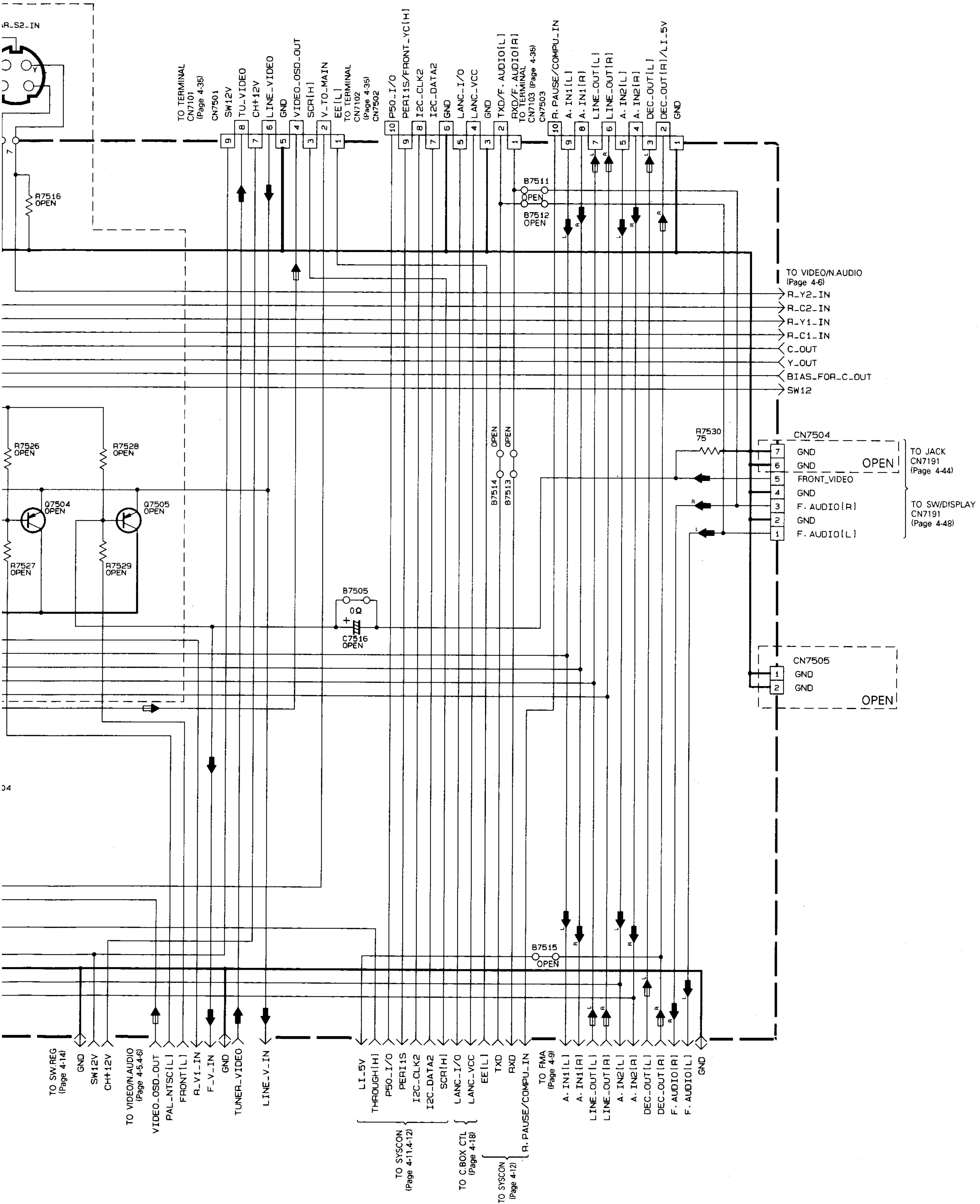

03 MAIN [C.BOX_CTL]
TO SW.REG (Page 4-14)
SW12V
AL6V
AL17V
GND
TO VIDEO/N.AUDIO (Page 4-6)
TU_VIDEO
GR_VIDEO
BS_VIDEO
GND
TO VIDEO/N.AUDIO (Page 4-5)
EE[L]
GND
S-P[H]/V.STB[L]
FORCE[L]
PS_SECAM[H]
SW12V
B7201 OPEN
B7204 OPEN
B7206 OPEN
B7207 OPEN
B7208 OPEN
B7205 OPEN
B7203 OPEN
B7202 OPEN
B7211 OPEN
B6104
B6108
B6107
B6105
B6106
B6109
B6103 OPEN
B6102 OPEN
B6101 OPEN
J6101
DET_OUT[M-N]
DET_IN
DET_OUT[W].P50_I/O
R6101 75
J6102
AFC_IN
BIT_IN
BIT_OUT
R6102 75
OPEN
CN6101
BS_VIDEO
GND
BIT_IN
GND
DET_IN
GND
BIT_OUT
PS_SECAM[H]/GND
RCE[L]/DET_OUT[W]
SW12V/GND
SW12V/AFC_IN
S-P[H]/GND
GND/DET_OUT[M-N]
GND
GND/BS_AUDIO[R]
EE[L]/GND
NC/BS_AUDIO[L]
OPEN
TO FMA (Page 4-9)
BS_AUDIO[L]
BS_AUDIO[R]
GND
CN1901
GR_VIDEO
GND
TU_VIDEO
GND
I2C_DATA2
I2C_CLK2
GR_ON[H]/CNR_CTL
SW12V
AL6V
OPEN
TO SYSCON (Page 4-12)
GR_ON[H]/CNR_CTL
I2C_CLK2
I2C_DATA2
CN6103
I2C_CLK2
I2C_DATA2
C6101 OPEN
5
4
3
2
1
A
B
C
D


CN6103
OPEN
10 I2C_CLK2
9 I2C_DATA2
8 BS_ANT/AFC
7 ANT_CTL[H]
6 BIT_IN[H]
5 GND
4 SW12V
3 AL6V
2 AL17V
1 BS_PCTL[H]
IC3961
TC700241FU
VCC
GND
B3961
OPEN
D3965
RB721Q-40
R3954
OPEN
TO TERMINAL(MAIN)
(Page 4-20)
LANC_VCC
LANC_I/O
R. PAUSE/COMPU/RAE
J3911
C3911
OPEN
D3961
OPEN
C3961
0.1
IC3962
TC700241FU
B3962
OPEN
R3961
4.7k
D3962
OPEN
D3964
OPEN
L7201
OPEN
D3963
OPEN
Q7201
OPEN
R7202
OPEN
C7202
OPEN
R7203
OPEN
R7204
OPEN
95 LANC/C. BOX
J3952
LANC
J7201
C. BOX/DSS
R7211
100
CN7201
CN7202
CN7502
CN3951
91 JLIP
J3951
JLIP
B3951
OPEN
OPEN
GR_ON[H]/CNR_CTL
I2C_CLK2
I2C_DATA2
BS_ANT/AFC
ANT_CTL[H]
BIT_IN[H]
P50_I/O
BS_PCTL[H]
JLIP[L]
RXD
TXD
AL5V
RMO
R. PAUSE/COMPU_IN
GND
JLIP_IN
JLIP_OUT
NC

4.9 TERMINAL(MAIN) SCHEMATIC DIAGRAM

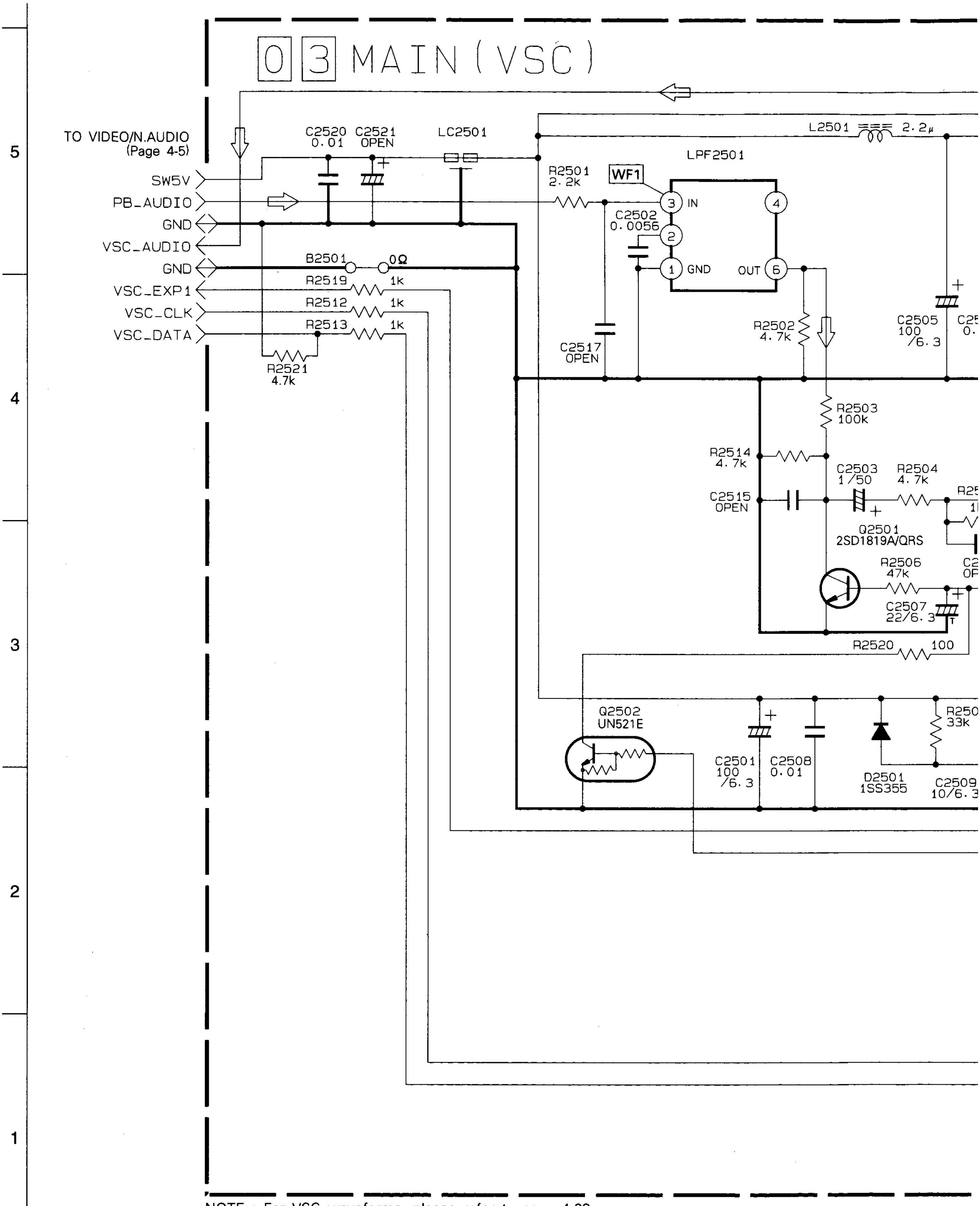


03 MAIN
[TERMINAL]
OPEN
REAR_S1_OUT
J7506
REAR_S2_OUT
REAR_S1_IN
J7505
OPEN
REAR_S2_IN
R7513
OPEN
R7514
OPEN
C7505
OPEN
R7515
OPEN
C7506
OPEN
R7506
75
R7507
75
R7509
OPEN
R7511
OPEN
R7517
OPEN
R7518 OPEN
C7507
0.01
C7508
OPEN
C7501
OPEN
C7502
OPEN
REAR_1_IN
J7501
V. IN
A. IN[L]
A. IN[R]
R7503
100
R7504
100
R7501
0Ω
R7502
75
C7503
OPEN
C7504
OPEN
R7519
390
C7511
470
/6.3
R7521
390
B7501 OPEN
B7502
OPEN
R7520
100
R7522
100
L7501
SHORT
C7509
OPEN
C7510
OPEN
Q7501
OPEN
Q7502
OPEN
L7502
OPEN
C7512
OPEN
C7513
OPEN
R7523
OPEN
R7525
OPEN
R7526
OPEN
Q7503
OPEN
C7514
OPEN
R7524
OPEN
C7515
OPEN
R7527
OPEN
REAR_2_IN
J7502
V. IN
A. IN[L]
A. IN[R]
R7531
OPEN
R7534
OPEN
C7519
OPEN
C7517
OPEN
R7532
OPEN
R7533
OPEN
C7518
OPEN
C7520
OPEN
L7503
SHORT
REAR_1_OUT
J7503
V. OUT
A. OUT[L]
A. OUT[R]
R7537
75
R7538
220
R7535
220
C7522
OPEN
C7523
OPEN
C7524
OPEN
C7525
47/16
C7526
0.01
C7527
470/6.3
C7528
OPEN
B7506
R7541
390
1/2W
R7542
100
B7503
OPEN
Q7507
OPEN
C7529
OPEN
IC7501
OPEN
GND
VCC
NC
B7504
0Ω
C7531
OPEN
C7530
OPEN
REAR_2_OUT
J7504
V. OUT
A. OUT[L]
A. OUT[R]
C7521
OPEN
R7536
OPEN
5
4
3
2
1
A
B
C
D

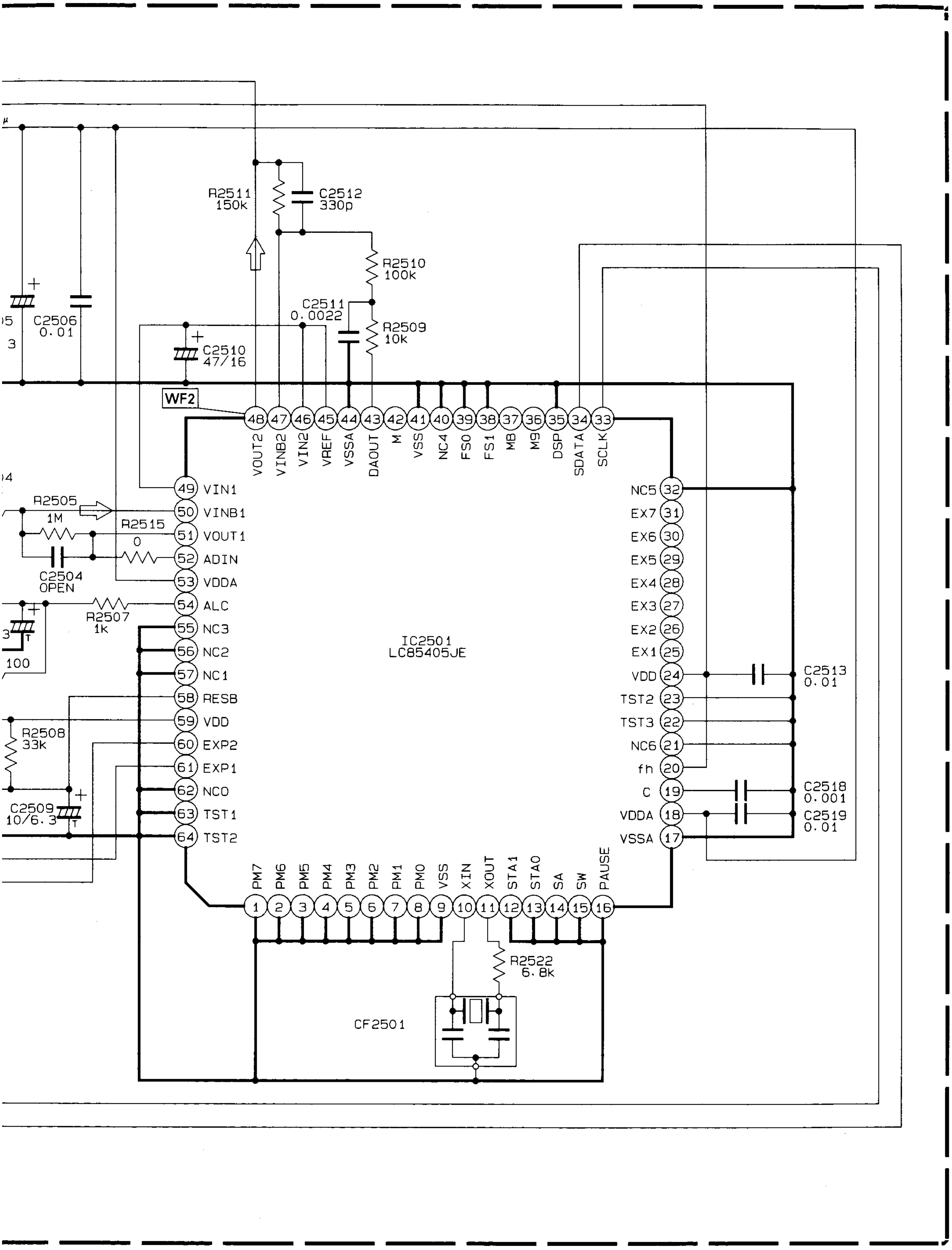


R_S2_IN
R7516 OPEN
TO TERMINAL CN7101 (Page 4-35) CN7501
SW12V
TU_VIDEO
CH+12V
LINE_VIDEO
GND
VIDEO_OSD_OUT
SCR[H]
V_TO_MAIN
EE[L]
TO TERMINAL CN7102 (Page 4-35) CN7502
P50_I/O
PERI1S/FRONT_YC[H]
I2C_CLK2
I2C_DATA2
GND
LANC_I/O
LANC_VCC
GND
TXD/F.AUDIO[L]
RXD/F.AUDIO[R]
TO TERMINAL CN7103 (Page 4-35) CN7503
R.PAUSE/COMPU_IN
A.IN1[L]
A.IN1[R]
LINE_OUT[L]
LINE_OUT[R]
A.IN2[L]
A.IN2[R]
DEC_OUT[L]
DEC_OUT[R]/LI_5V
GND
B7511
OPEN
B7512 OPEN
TO VIDEO/N.AUDIO (Page 4-6)
R_Y2_IN
R_C2_IN
R_Y1_IN
R_C1_IN
C_OUT
Y_OUT
BIAS_FOR_C_OUT
SW12
R7526 OPEN
R7528 OPEN
Q7504 OPEN
Q7505 OPEN
R7527 OPEN
R7529 OPEN
B7514 OPEN
B7513 OPEN
R7530 75
CN7504
GND
GND
FRONT_VIDEO
GND
F.AUDIO[R]
GND
F.AUDIO[L]
OPEN
TO JACK CN7191 (Page 4-44)
TO SW/DISPLAY CN7191 (Page 4-48)
B7505 0Ω
C7516 OPEN
CN7505
GND
GND
OPEN
04
B7515 OPEN
TO SW.REG (Page 4-14)
GND
SW12V
CH+12V
TO VIDEO/N.AUDIO (Page 4-5,4-6)
VIDEO_OSD_OUT
PAL_NTSC[L]
FRONT[L]
R_V1_IN
F_V_IN
GND
TUNER_VIDEO
LINE_V_IN
LI_5V
THROUGH[H]
P50_I/O
PERI1S
I2C_CLK2
I2C_DATA2
SCR[H]
LANC_I/O
LANC_VCC
EE[L]
TXD
RXD
R.PAUSE/COMPU_IN
TO SYSCON (Page 4-11,4-12)
TO C.BOX CTL (Page 4-18)
TO SYSCON (Page 4-12)
TO FMA (Page 4-9)
A.IN1[L]
A.IN1[R]
LINE_OUT[L]
LINE_OUT[R]
A.IN2[L]
A.IN2[R]
DEC_OUT[L]
DEC_OUT[R]
F.AUDIO[R]
F.AUDIO[L]
GND

4.10 VSC SCHEMATIC DIAGRAM


03 MAIN (VSC)
TO VIDEO/N.AUDIO
(Page 4-5)
SW5V
PB_AUDIO
GND
VSC_AUDIO
GND
VSC_EXP1
VSC_CLK
VSC_DATA
C2520
0.01
C2521
OPEN
LC2501
L2501 2.2μ
LPF2501
R2501
2.2k
WF1
3 IN
4
C2502
0.0056
2
1 GND
OUT 6
B2501 0Ω
R2519 1k
R2512 1k
R2513 1k
R2521
4.7k
C2517
OPEN
R2502
4.7k
C2505
100
/6.3
R2503
100k
R2514
4.7k
C2503
1/50
R2504
4.7k
C2515
OPEN
Q2501
2SD1819A/QRS
R2506
47k
C2507
22/6.3
R2520 100
Q2502
UN521E
C2501
100
/6.3
C2508
0.01
D2501
1SS355
R250
33k
C2509
10/6.3
5
4
3
2
1
A
B
C
D

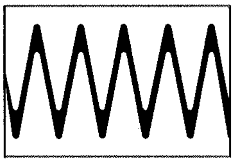
NOTE : For VSC waveforms, please refer to page 4-23.


R2511
150k
C2512
330p
R2510
100k
C2511
0.0022
R2509
10k
C2506
0.01
C2510
47/16
WF2
48 VOUT2
47 VINB2
46 VIN2
45 VREF
44 VSSA
43 DAOUT
42 M
41 VSS
40 NC4
39 FS0
38 FS1
37 MB
36 M9
35 DSP
34 SDATA
33 SCLK
49 VIN1
50 VINB1
51 VOUT1
52 ADIN
53 VDDA
54 ALC
55 NC3
56 NC2
57 NC1
58 RESB
59 VDD
60 EXP2
61 EXP1
62 NC0
63 TST1
64 TST2
R2505
1M
R2515
0
C2504
OPEN
R2507
1k
R2508
33k
C2509
10/6.3
100
IC2501
LC85405JE
NC5 32
EX7 31
EX6 30
EX5 29
EX4 28
EX3 27
EX2 26
EX1 25
VDD 24
TST2 23
TST3 22
NC6 21
fh 20
C 19
VDDA 18
VSSA 17
C2513
0.01
C2518
0.001
C2519
0.01
1 PM7
2 PM6
3 PM5
4 PM4
5 PM3
6 PM2
7 PM1
8 PM0
9 VSS
10 XIN
11 XOUT
12 STA1
13 STA0
14 SA
15 SW
16 PAUSE
R2522
6.8k
CF2501

WAVEFORMS

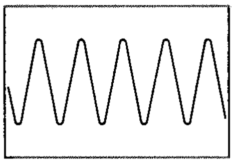
— VIDEO/N.AUDIO —

WF1 IC1-4



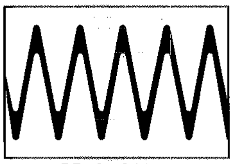
REC 0.8 Vp-p
20 mV/0.5 msec/DIV

WF2 IC1-9



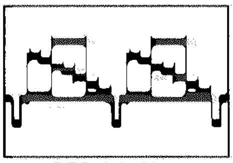
REC 0.1 Vp-p
2 mV/0.5 msec/DIV

WF3 IC1-11



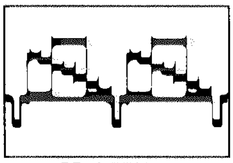
PB 0.48 Vp-p
10 mV/0.5 msec/DIV

WF4-1 IC1-19



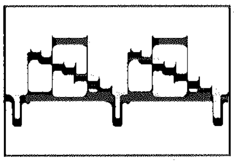
REC 0.51 Vp-p
20 mV/20 μsec/DIV

WF4-2 IC1-19



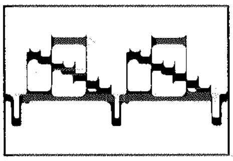
PB 0.55 Vp-p
20 mV/20 μsec/DIV

WF5-1 IC1-23



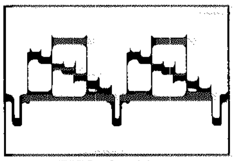
REC 0.48 Vp-p
20 mV/20 μsec/DIV

WF5-2 IC1-23



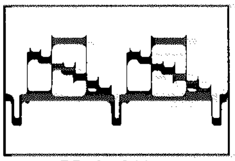
PB 0.52 Vp-p
20 mV/20 μsec/DIV

WF6-1 IC1-42



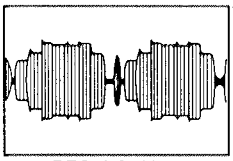
REC 0.4 Vp-p
10 mV/20 μsec/DIV

WF6-2 IC1-42



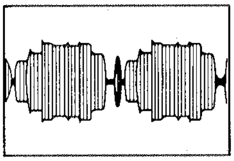
PB 0.43 Vp-p
10 mV/20 μsec/DIV

WF7-1 IC1-46



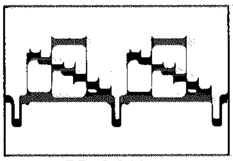
REC 0.24 Vp-p
10 mV/20 μsec/DIV

WF7-2 IC1-46



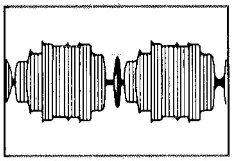
PB 0.3 Vp-p
10 mV/20 μsec/DIV

WF8 IC1-52



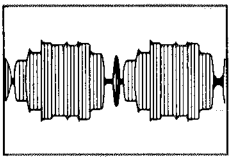
PB 2.2 Vp-p
50 mVV/20 μsec/DIV

WF9 IC1-55



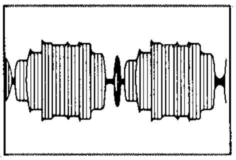
PB 0.6 Vp-p
20 mV/20 μsec/DIV

WF10-1 IC1-58



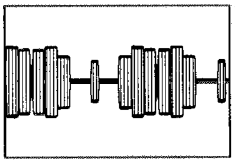
REC 0.4 Vp-p
10 mV/20 μsec/DIV

WF10-2 IC1-58



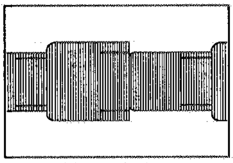
PB 0.48 Vp-p
10 mV/20 μsec/DIV

WF11-1 IC1-78



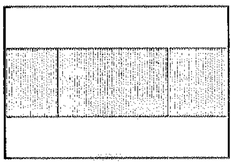
REC 0.62 Vp-p
20 mV/20 μsec/DIV

WF11-2 IC1-78



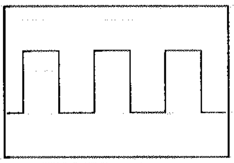
PB 0.22 Vp-p
10 mV/5 msec/DIV

WF12 IC1-87



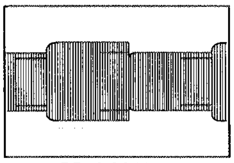
REC 1.6 Vp-p
50 mV/1 msec/DIV

WF13 TP111 D.FF



REC/PB 5.2 Vp-p
0.2 V/10 msec/DIV

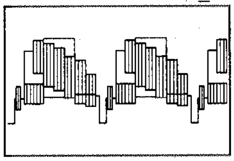
WF14 TP106 V.PB FM



PB 0.32 Vp-p
10 mV/5 msec/DIV

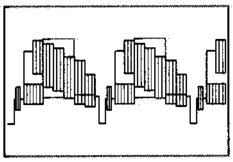
— ON SCREEN —

WF1 IC201-21 CV_IN



REC/PB 2.2 Vp-p
50 mV/20 μsec/DIV

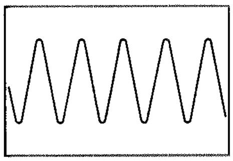
WF2 IC201-19 CVOUT



REC/PB 2.2 Vp-p
50 mV/20 μsec/DIV

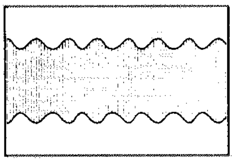
— FMA —

WF1 IC2201-9



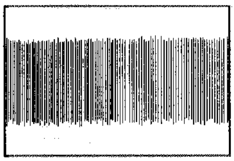
REC 0.11 Vp-p
2 mV/0.5 msec/DIV

WF2 IC2201-21



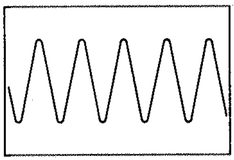
REC 0.48 Vp-p
10 mV/1 msec/DIV

WF3 IC2201-30



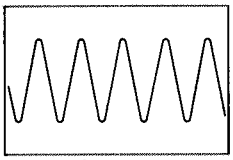
PB 0.56 Vp-p
20 mV/5 msec/DIV

WF4 IC2201-53



REC/PB 1.2 Vp-p
20 mV/0.5 msec/DIV

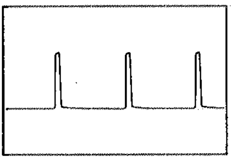
WF5 IC2201-61



REC 0.12 Vp-p
2 mV/0.5 msec/DIV

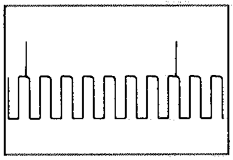
— SYSCON —

WF1 CN3001-4 D.PG



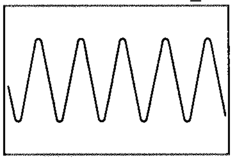
REC/PB 4.8 Vp-p
0.2 V/10 msec/DIV

WF2 CN3001-5 D.FG



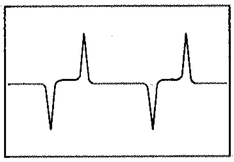
REC/PB 4.5 Vp-p
0.1 V/5 msec/DIV

WF3 CN3003-2 CAP_FG



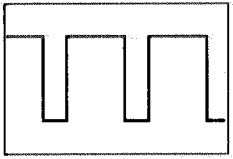
REC/PB 2.2 Vp-p
50 mV/0.5 msec/DIV

WF4 TP4001 CTL P



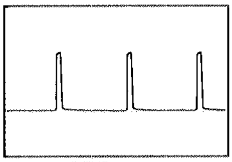
PB 2.5 Vp-p
50 mV/10 msec/DIV

WF5 IC3001-1 CTL(+)



REC 4.0 Vp-p
0.1 V/10 msec/DIV

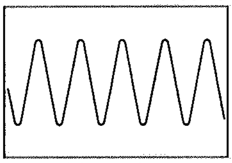
WF6 IC3001-98 C.SYNC



REC/PB 4.1 Vp-p
0.1 V/20 μsec/DIV

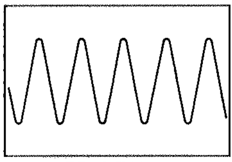
— VSC —

WF1 LPF2501-3



PB 0.4 Vp-p
10 mV/0.5 msec/DIV

WF2 IC2501-48

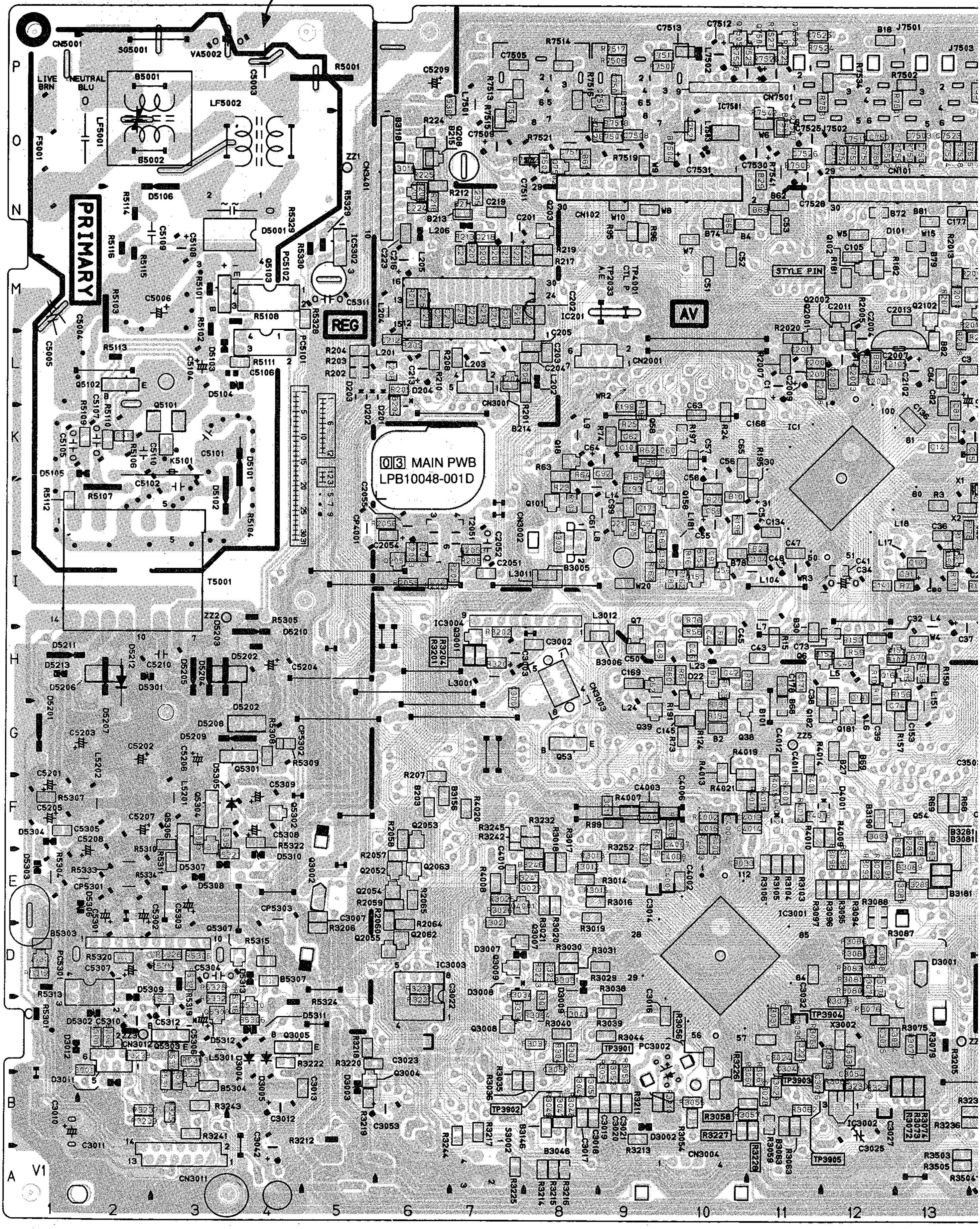


PB 0.7 Vp-p
20 mV/0.5 msec/DIV

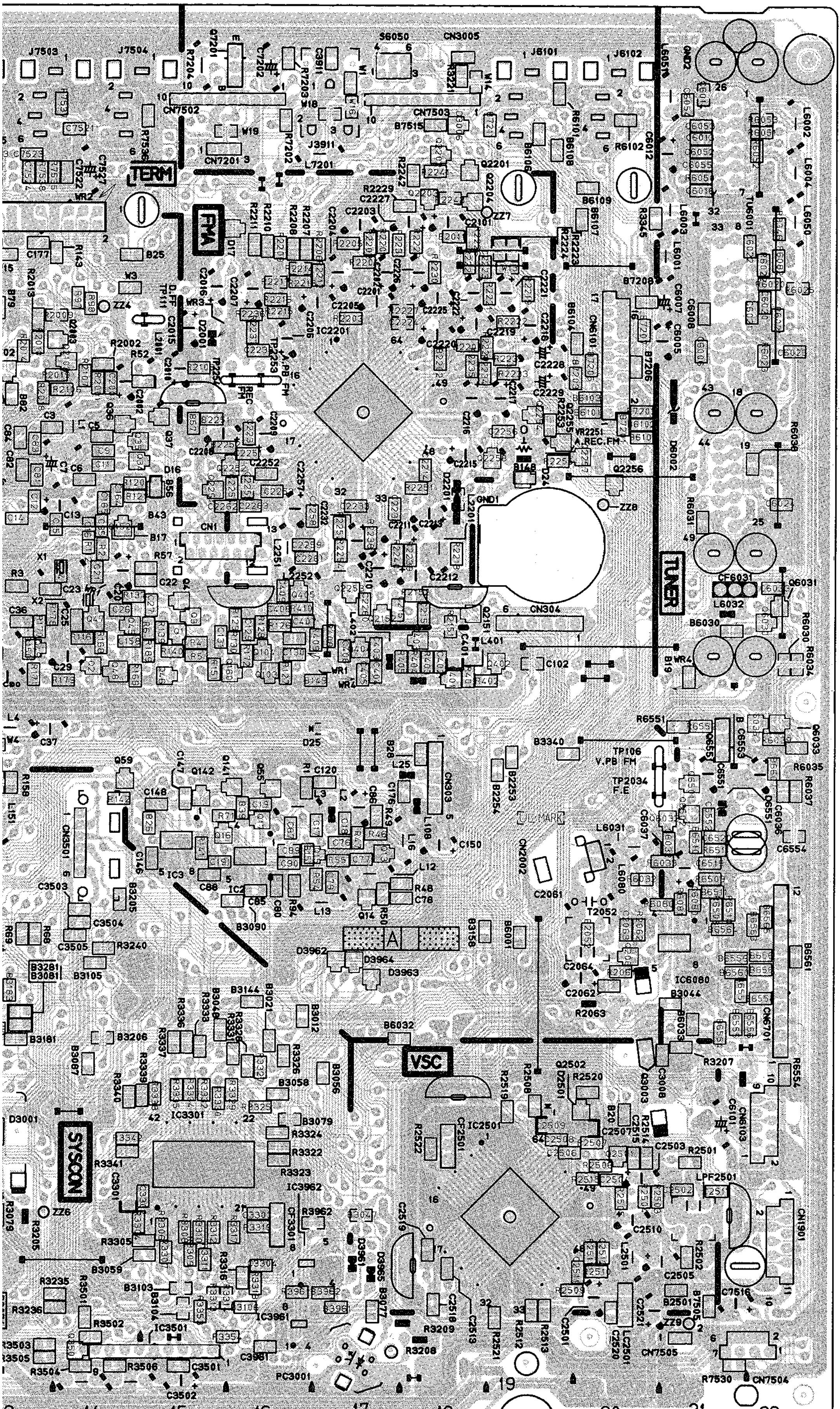
COMPONENT PARTS LOCATION GUIDE <MAIN>

REF.NO.	LOCATION		
CAPACITOR			
C1	A	D	11L
C3	B	C	13L
C5	B	C	14L
C6	B	C	14K
C7	A	D	13L
C9	B	C	14L
C11	B	C	14L
C12	B	C	13K
C13	A	D	13K
C14	B	C	13K
C15	B	C	13K
C16	B	C	14K
C17	B	C	17G
C18	B	C	17G
C19	B	C	16H
C20	A	D	14J
C21	B	C	14J
C22	B	C	15J
C23	B	C	13J
C24	B	C	14J
C25	B	C	14J
C26	B	C	14J
C27	B	C	15J
C29	A	D	14I
C30	A	D	13I
C31	B	C	13I
C32	B	C	12H
C34	A	D	12I
C36	B	C	13J
C37	A	D	13I
C38	B	C	11H
C39	B	C	12G
C40	B	C	12H
C41	B	C	12I
C42	B	C	10H
C43	B	C	11H
C44	B	C	10H
C45	B	C	10H
C46	B	C	10H
C47	B	C	11J
C48	A	D	11I
C49	B	C	9H
C50	B	C	9H
C51	B	C	10M
C52	B	C	10N
C53	B	C	11N
C54	A	D	11J
C55	A	D	10J
C56	A	D	10K
C57	B	C	10K
C58	B	C	10J
C59	B	C	10J
C60	B	C	9K
C61	B	C	8J
C62	B	C	9K
C63	B	C	10K
C64	A	D	8K
C65	B	C	10K
C73	B	C	12H
C74	B	C	12G
C76	B	C	17G
C77	B	C	17G
C78	B	C	18G
C79	B	C	17G
C80	B	C	16G
C81	B	C	13K
C82	B	C	13L
C83	B	C	13L
C84	B	C	13L
C85	B	C	16G
C86	A	D	17H
C87	B	C	16G
C88	B	C	15G
C89	B	C	16G
C90	B	C	16G
C91	B	C	10I
C92	B	C	9K
C95	B	C	14K
C98	B	C	9K
C99	B	C	9J
C101	B	C	9K
C102	B	C	19I
C104	B	C	11I
C105	B	C	12N
C107	B	C	13I
C115	B	C	12H
C120	B	C	17H
C129	B	C	16J
C130	B	C	16I
C131	B	C	15J
C134	B	C	11J
C136	B	C	13K
C141	B	C	12I
C145	B	C	10G
C146	B	C	15G
C147	B	C	15H
C148	B	C	15H
C150	A	D	18G
C153	B	C	13G
C154	B	C	9J
C158	B	C	14J
C164	B	C	14K
C165	B	C	14K
C168	B	C	11L
C169	B	C	9H
C171	B	C	11H
C175	B	C	9J
C176	B	C	18H
C177	B	C	13N
C178	B	C	11H
C181	B	C	12H
C182	B	C	9I
C183	B	C	9I
C191	B	C	15G
C193	B	C	9J
C201	A	D	7N
C202	B	C	8M
C203	B	C	8L
C204	B	C	8L
C205	B	C	8L
C206	B	C	7M
C207	B	C	7M
C208	B	C	6L
C209	B	C	7M
C210	B	C	6M
C211	B	C	6M
C212	B	C	6L
C213	A	D	6L
C214	B	C	6M
C215	B	C	6M
C216	A	D	6M
C217	B	C	7N
C218	B	C	7N
C219	B	C	7N
C220	B	C	7M
C222	B	C	8M
C223	B	C	6N
C224	B	C	6N
C401	B	C	18I
C402	B	C	18I
C403	B	C	17I
C404	B	C	17I
C405	B	C	17I
C406	B	C	17I
C407	B	C	16J
C408	B	C	16J
C409	B	C	16J
C2001	B	C	14M
C2002	A	D	14L
C2003	B	C	12L
C2004	A	D	12L
C2005	B	C	11L
C2006	B	C	12L
C2007	A	D	12L
C2008	B	C	11L
C2009	A	D	11L
C2010	A	D	15M
C2011	B	C	12M
C2013	B	C	13M
C2015	A	D	15M
C2016	A	D	15N
C2017	B	C	11L
C2051	B	C	7I
C2052	A	D	7I
C2053	B	C	6J
C2054	B	C	6J
C2055	A	D	6J
C2061	A	D	20G
C2062	B	C	20F
C2063	B	C	20F
C2064	A	D	20F
C2101	A	D	18N
C2102	A	D	13L
C2151	B	C	17J
C2152	B	C	18J
C2201	A	D	17M
C2202	A	D	17N
C2203	A	D	17N
C2204	A	D	17N
C2205	A	D	16M
C2206	A	D	16M
C2207	A	D	16N
C2208	A	D	16L
C2209	A	D	16L
C2210	A	D	17J
C2211	A	D	18K
C2212	A	D	18J
C2213	A	D	18K
C2214	B	C	18L
C2215	A	D	18L
C2216	A	D	18L
C2217	A	D	19L
C2218	A	D	19M
C2219	A	D	18M
C2220	A	D	18M
C2221	A	D	19N
C2222	A	D	18N
C2223	B	C	18N
C2224	B	C	17M
C2225	A	D	18N
C2226	A	D	18N
C2227	A	D	18N
C2228	A	D	19M
C2229	A	D	19M
C2230	B	C	16M
C2231	B	C	16L
C2232	A	D	17K
C2233	B	C	17K
C2234	B	C	17K
C2251	B	C	16L
C2252	B	C	16K
C2253	B	C	16K
C2254	B	C	16K
C2255	B	C	16K
C2256	B	C	19L
C2257	A	D	16K
C2258	B	C	16K
C2259	B	C	16K
C2260	B	C	17J
C2261	B	C	16K
C2262	B	C	15K
C2263	B	C	16K
C2501	A	D	20B
C2502	B	C	21C
C2503	A	D	20C
C2504	B	C	20C
C2505	A	D	20B
C2506	B	C	19D
C2507	B	C	20D
C2508	B	C	19D
C2509	B	C	19D
C2510	A	D	20C
C2511	B	C	20B
C2512	B	C	20B
C2513	B	C	18B
C2515	B	C	20D
C2517	B	C	21C
C2518	B	C	18B
C2519	B	C	18C
C2520	B	C	20B
C2521	A	D	20B
C3001	B	C	8J
C3002	B	C	8H
C3003	A	D	7H
C3004	B	C	7H
C3007	B	C	5E
C3008	B	C	21E
C3010	A	D	1B
C3011	A	D	1B
C3012	A	D	4B
C3013	B	C	5B
C3014	B	C	9E
C3016	B	C	9C
C3017	B	C	8B
C3018	B	C	8B
C3019	B	C	9B
C3020	B	C	9B
C3021	B	C	9B
C3022	B	C	6D
C3023	B	C	6C
C3024	B	C	11C
C3025	A	D	12B
C3026	B	C	11B
C3027	B	C	12B
C3028	B	C	11B
C3029	B	C	11B
C3030	B	C	11C
C3031	B	C	11C
C3032	B	C	11D
C3033	B	C	10E
C3034	B	C	12C
C3035	B	C	12C
C3036	B	C	12C
C3037	B	C	12C
C3038	B	C	12D
C3039	B	C	12D
C3040	B	C	8C
C3041	B	C	11C
C3042	A	D	4A
C3052	B	C	8C
C3053	A	D	6B
C3054	B	C	12C
C3301	B	C	14C
C3302	B	C	15C
C3303	B	C	16C
C3304	B	C	16B
C3501	B	C	15A
C3502	A	D	15A
C3503	B	C	14F
C3504	B	C	14F
C3505	B	C	14F
C3911	B	C	17P
C3961	B	C	16A
C4001	B	C	9E
C4002	B	C	10E
C4003	B	C	9F
C4004	B	C	10F
C4005	B	C	9F
C4006	B	C	9F
C4007	B	C	10F
C4008	B	C	9E
C4009	B	C	9E
C4010	B	C	7E
C4011	B	C	11F
C4012	B	C	11G
C4013	B	C	11F
C4014	B	C	11F
C4015	B	C	10F
C5001	A	D	2O
C5002	A	D	3N
C5003	A	D	4P
C5004	A	D	1M
C5005	A	D	1L
C5006	A	D	3M
C5101	A	D	3K
C5102	A	D	3J
C5103	B	C	2K
C5104	A	D	3L
C5105	A	D	1K
C5106	A	D	4L
C5107	A	D	2K
C5108	A	D	3N
C5109	A	D	2N
C5110	A	D	2K
C5201	A	D	1F
C5202	A	D	2G
C5203	A	D	1G
C5204	A	D	4H
C5205	A	D	1F
C5206	A	D	3G
C5207	A	D	3F
C5208	A	D	1E
C5209	A	D	6P
C5210	A	D	3H
C5301	A	D	2D
C5302	A	D	2D
C5303	A	D	3E
C5304	A	D	4D
C5305	B	C	1F
C5306	A	D	3C
C5307	A	D	2D
C5308	A	D	4F
C5309	A	D	4F
C5310	A	D	2C
C5311	A	D	5M
C5312	A	D	3C
C6005	A	D	20M
C6006	B	C	21M
C6007	A	D	21M
C6008	B	C	21M
C6012	A	D	21O
C6013	B	C	21O
C6014	B	C	21P
C6016	B	C	21O
C6020	B	C	22M
C6021	B	C	22M
C6022	B	C	21N
C6023	B	C	22M
C6024	B	C	22K
C6032	B	C	21G
C6033	B	C	22J
C6036	B	C	22H
C6037	A	D	21G
C6052	B	C	21O
C6053	B	C	21P
C6054	B	C	21P
C6055	B	C	21O
C6080	B	C	21G
C6101	A	D	21D
C6519	B	C	21G
C6520	B	C	21G
C6551	A	D	21H
C6552	B	C	21H
C6553	A	D	22H
C6554	B	C	22G
C7202	A	D	16P
C7501	B	C	12O
C7502	B	C	12O
C7503	B	C	13O
C7504	B	C	13O
C7505	B	C	7P
C7506	B	C	7O
C7507	B	C	9P
C7508	B	C	9O
C7509	A	D	7O
C7510	B	C	8O
C7511	A	D	8O
C7512	A	D	10P
C7513	B	C	10P
C7514	A	D	11P
C7515	A	D	11P
C7516	A	D	21B
C7517	B	C	12O
C7518	B	C	12O
C7519	B	C	12O
C7520	B	C	12O
C7521	B	C	14O
C7522	B	C	14O
C7523	B	C	13O
C7524	B	C	13O
C7525	A	D	11O
C7526	B	C	11O
C7527	A	D	14O
C7528	A	D	11O
C7529	B	C	10O
C7530	A	D	11O
C7531	A	D	10O
CONNECTOR			
CN1	A	D	15K
CN101	A	D	14O
CN102	A	D	10O
CN303	A	D	18H
CN304	A	D	20J
CN1901	A	D	22C
CN2001	A	D	9L
CN2002	A	D	20G
CN3001	A	D	7L
CN3002	A	D	8J
CN3003	A	D	8H
CN3004	A	D	10A
CN3005	A	D	18P
CN3011	A	D	3A
CN3012	A	D	2C
CN3401	A	D	6O
CN3501	A	D	14H
CN5001	A	D	1P
CN6101	A	D	20L
CN6103	A	D	22D
CN6701	A	D	22E
CN7201	A	D	15O
CN7501	A	D	11P
CN7502	A	D	16P
CN7503	A	D	18P
CN7504	A	D	22A
CN7505	A	D	21B
DIODE			
D16	B	C	15K
D17	B	C	16N
D22	B	C	10H
D24	B	C	19K
D25	B	C	16I
D101	B	C	12N
D201	B	C	6L
D202	B	C	5L
D203	B	C	5L
D204	B	C	6L
D2001	A	D	15M
D2201	A	D	18K
D2501	B	C	19D
D3001	A	D	13D
D3002	A	D	9B
D3003	A	D	5B
D3004	A	D	4C
D3005	A	D	4C
D3006	B	C	18P
D3007	A	D	8D
D3008	B	C	7D
D3009	A	D	8D
D3011	A	D	2B
D3012	A	D	1C
D3961	A	D	17C
D3962	B	C	17F
D3963	B	C	17F
D3964	B	C	17F
D3965	A	D	17B
D4001	B	C	12F
D4002	B	C	11F
D5001	B	C	3N
D5101	A	D	4J
D5102	A	D	3K
D5103	A	D	3L
D5104	A	D	3L
D5105	A	D	2K
D5106	A	D	3N
D5201	A	D	1G
D5202	A	D	4H
D5203	A	D	3H
D5204	A	D	3H
D5205	A	D	3H
D5206	A	D	2H
D5207	A	D	2H
D5208	A	D	4G
D5209	A	D	4G
D5210	A	D	3H
D5211	A	D	1H
D5212	A	D	2H
D5213	A	D	1H
D5301	A	D	2H
D5302	A	D	2C
D5303	A	D	1E
D5304	A	D	1F
D5305	A	D	4F
D5306	A	D	2E
D5307	A	D	3E
D5308	A	D	3E
D5309	A	D	2D
D5310	A	D	4E
D5311	A	D	4C
D5312	B	C	3C
D5313	A	D	4D
D6002	A	D	21M
D6551	A	D	21G
IC			
IC1	B	C	12K
IC2	B	C	16G
IC3	B	C	15G
IC201	A	D	8L
IC2201	B	C	17L
IC2501	B	C	19C
IC3001	B	C	10D
IC3002	B	C	12B
IC3003	A	D	6C
IC3004	A	D	8I
IC3301	B	C	15D
IC3501	A	D	15A
IC3961	B	C	16B
IC3962	B	C	16B
IC5301	A	D	2D
IC5302	A	D	5N
IC6080	B	C	21F
IC7501	B	C	10O
JACK			
J3911	A	D	17P
J6101	A	D	19P
J6102	A	D	20P
J7501	A	D	12P
J7502	A	D	11P
J7503	A	D	13P
J7504	A	D	14P
J7505	A	D	8P
J7506	A	D	9P
COIL			
L1	A	D	14L
L2	A	D	17G
L3	A	D	16H
L4	A	D	13I
L5	A	D	12H
L6	A	D	12G
L7	A	D	11I
L8	A	D	9J
L9	A	D	8K
L12	A	D	17G
L13	A	D	17G
L14	A	D	9J
L16	A	D	18G
L17	A	D	13J
L18	A	D	13J
L23	A	D	10H
L24	A	D	9H
L25	A	D	18H
L104	A	D	11I
L108	A	D	18G
L151	A	D	13G
L181	A	D	10I
L201	A	D	6L
L202	A	D	8L
L203	A	D	7L
L204	A	D	6M
L205	A	D	6N
L206	A	D	7N
L401	A	D	18I
L402	A	D	17I
L2001	A	D	15L
L2201	A	D	18K
L2251	A	D	16K
L2252	A	D	17J
L2501	A	D	20C
L3001	A	D	7H
L3011	B	C	8I
L3012	B	C	8H
L3501	A	D	14A
L5201	A	D	3F
L5202	A	D	2F
L5301	A	D	4C
L6001	A	D	21N
L6002	A	D	22P
L6003	A	D	21O
L6004	A	D	22O
L6031	A	D	20G
L6032	A	D	21J
L6050	A	D	22O
L6051	A	D	21P
L6080	A	D	20G
L7201	A	D	16O
L7501	A	D	7P
L7502	A	D	10P
L7503	A	D	10O
TRANSISTOR			
Q1	B	C	15J
Q2	B	C	14I
Q3	B	C	15J
Q4	B	C	15J
Q6	B	C	12H
Q7	B	C	9H
Q13	B	C	17G
Q14	B	C	17G
Q15	B	C	17G
Q16	B	C	15G
Q17	B	C	16G
Q18	B	C	8K
Q21	B	C	9J
Q34	B	C	14L
Q35	B	C	14L
Q36	B	C	14L
Q37	B	C	15L
Q38	B	C	10G
Q39	B	C	9G
Q45	B	C	14J
Q46	B	C	15I
Q47	B	C	14J
Q48	B	C	14I
Q49	B	C	13I
Q52	B	C	9H
Q53	A	D	8G
Q54	B	C	13F
Q55	B	C	16H
Q56	B	C	10I
Q57	B	C	9J
Q58	B	C	9K
Q59	B	C	14H
Q101	B	C	8J
Q102	B	C	12M
Q103	B	C	16I
Q104	B	C	16I
Q141	B	C	16H
Q142	B	C	15H
Q152	B	C	14K
Q153	B	C	12H
Q154	B	C	13H
Q157	B	C	10I
Q158	B	C	9J
Q159	B	C	9J
Q160	B	C	16I
Q161	B	C	12H
Q181	B	C	12G
Q182	B	C	12G
Q203	B	C	8N
Q204	B	C	7L
Q207	B	C	6N
Q208	B	C	6O
Q211	B	C	7N
Q401	B	C	18I
Q402	B	C	19I
Q403	B	C	18J
Q404	B	C	17I
Q405	B	C	16J
Q2001	B	C	11L
Q2002	B	C	12M
Q2003	B	C	14M
Q2051	B	C	6I
Q2052	B	C	6E
Q2053	B	C	6F
Q2054	B	C	6E
Q2055	B	C	6D
Q2061	B	C	20F
Q2062	B	C	6D
Q2063	B	C	6E
Q2102	B	C	13M
Q2103	B	C	14M
Q2151	B	C	18J
Q2152	B	C	17J
Q2201	B	C	18O
Q2202	B	C	18O
Q2203	B	C	18O
Q2204	B	C	18O
Q2251	B	C	15K
Q2252	B	C	16L
Q2253	B	C	17J
Q2254	B	C	19L
Q2255	B	C	19L
Q2256	B	C	20K
Q2257	B	C	20L
Q2258	B	C	19L
Q2501	B	C	20D
Q2502	B	C	20D
Q3001	B	C	7H
Q3002	A	D	5E
Q3003	A	D	20E
Q3004	B	C	5B
Q3005	A	D	5C
Q3007	B	C	7D
Q3008	B	C	7C
Q3009	B	C	7D
Q3501	B	C	14A
Q4001	B	C	7E
Q5101	A	D	2K
Q5102	A	D	2L
Q5103	A	D	3M
Q5301	A	D	3G
Q5302	B	C	4F
Q5303	A	D	3C
Q5304	A	D	3F
Q5305	B	C	3F
Q5306	A	D	3F
Q5307	B	C	4D
Q5308	B	C	3C
Q5310	B	C	4C
Q5311	B	C	3B
Q5312	B	C	1D
Q6030	B	C	22J
Q6031	B	C	22J
Q6032	B	C	21G
Q6033	B	C	22I
Q6035	B	C	22I
Q6501	B	C	21H
Q6502	B	C	21H
Q6551	A	D	21H
Q7201	A	D	16P
Q7501	B	C	8P
Q7502	B	C	8O
Q7503	B	C	11P
Q7504	B	C	11P
Q7505	B	C	10P
Q7507	B	C	11O
RESISTOR			
R1	B	C	16H
R2	B	C	14K
R3	B	C	13J
R4	B	C	15J
R5	B	C	15I
R6	B	C	15J
R7	B	C	13I
R10	B	C	12H
R11	B	C	12H
R13	B	C	10H
R15	B	C	11H
R16	B	C	10H
R20	B	C	10J
R23	B	C	8J
R24	B	C	10K
R25	B	C	9K
R46	B	C	17G
R47	B	C	17G
R48	B	C	18G
R49	B	C	17H
R50	B	C	17G
R52	B	C	14M
R54	B	C	17G
R55	B	C	17G
R56	B	C	10H
R57	B	C	15J
R59	B	C	12H
R60	B	C	9H
R61	B	C	10H
R62	B	C	9K
R63	B	C	8K
R64	B	C	8K
R68	B	C	13F
R69	B	C	13F
R71	B	C	15H
R73	B	C	10G
R74	B	C	9K
R75	B	C	9J
R76	B	C	10I
R94	B	C	16G
R95	B	C	9N
R96	B	C	9N
R97	B	C	14N
R98	B	C	14M
R99	B	C	9F
R101	B	C	8J
R112	B	C	14K
R116	B	C	14J
R120	B	C	14K
R121	B	C	14K
R123	B	C	10H
R124	B	C	10G
R126	B	C	16J
R127	B	C	16I
R128	B	C	16J
R129	B	C	16J
R130	B	C	16J
R137	B	C	14J
R139	B	C	15J
R140	B	C	15I
R141	B	C	15G
R142	B	C	14H
R143	B	C	13N
R150	B	C	12H
R151	B	C	15I
R156	B	C	13H
R157	B	C	13G
R158	B	C	13H
R159	B	C	13H
R161	B	C	10I
R162	B	C	10I
R163	B	C	9I
R164	B	C	9J
R165	B	C	9K
R166	B	C	9K
R168	B	C	14J
R169	B	C	14I
R170	B	C	13J
R171	B	C	13I
R172	B	C	16I
R178	B	C	13J
R179	B	C	14I
R181	B	C	12M
R182	B	C	12M
R189	B	C	15I
R190	B	C	10G
R191	B	C	10H
R194	B	C	10G
R195	B	C	11J
R196	B	C	10J
R197	B	C	10K
R198	B	C	9K
R199	B	C	9L
R201	B	C	7L
R202	B	C	5L
R203	B	C	5L
R204	B	C	5L
R205	B	C	6L
R206	B	C	7L
R207	B	C	6G
R208	B	C	7L
R209	B	C	6L
R210	B	C	6L
R211	B	C	6M
R212	B	C	6N
R213	B	C	7N
R215	B	C	7M
R216	B	C	7M
R217	B	C	8M
R218	B	C	6N
R219	B	C	8N
R220	B	C	7N
R223	B	C	7N
R224	B	C	6O
R225	B	C	6O
R235	B	C	7N
R401	B	C	18I
R402	B	C	18I
R403	B	C	18I
R404	B	C	18I
R405	B	C	17I
R408	B	C	17J
R409	B	C	17J
R410	B	C	16J
R2001	B	C	14M
R2002	B	C	14M
R2003	B	C	12L
R2004	B	C	12L
R2005	B	C	12L
R2006	B	C	11L
R2007	B	C	11L
R2009	B	C	13M
R2010	B	C	13M
R2013	B	C	13M
R2014	B	C	13M
R2018	B	C	13L
R2019	B	C	13M
R2020	B	C	11L
R2051	B	C	7I
R2052	B	C	7I
R2053	B	C	7J
R2054	B	C	6J
R2055	B	C	6I
R2056	B	C	6J
R2057	B	C	6E
R2058	B	C	6F
R2059	B	C	6E
R2060	B	C	6E
R2061	B	C	20F
R2062	B	C	20F
R2063	A	D	20E
R2064	B	C	6E
R2065	B	C	6E
R2105	B	C	12L
R2106	B	C	14L
R2107	B	C	14M
R2108	B	C	15M
R2151	B	C	18J
R2152	B	C	18J
R2201	B	C	17N
R2202	B	C	17N
R2203	B	C	17M
R2204	B	C	17N
R2205	B	C	17N
R2206	B	C	17N
R2207	B	C	16N
R2208	B	C	16N
R2209	B	C	16N
R2210	B	C	16N
R2211	B	C	16N
R2212	B	C	17N
R2213	B	C	16N
R2214	B	C	16N
R2215	B	C	16M
R2216	B	C	16N
R2217	B	C	16N
R2218	B	C	18K
R2219	B	C	19N
R2220	B	C	18M
R2221	B	C	18N
R2222	B	C	19M
R2223	B	C	19N
R2224	B	C	19N
R2225	B	C	18N
R2226	B	C	18N
R2227	B	C	17M
R2228	B	C	18N
R2229	B	C	18O
R2230	B	C	18N
R2231	B	C	17N
R2232	B	C	19M
R2233	B	C	19M
R2234	B	C	18M
R2235	B	C	18M
R2236	B	C	16M
R2237	B	C	16M
R2238	B	C	17K
R2239	B	C	18K
R2240	B	C	17K
R2241	B	C	18O
R2242	B	C	18O
R2243	B	C	18O
R2244	B	C	18K
R2251	B	C	18K
R2252	B	C	17K
R2253	B	C	19L
R2254	B	C	17K
R2255	B	C	19L
R2501	B	C	21D
R2502	B	C	21B
R2503	B	C	20C
R2504	B	C	20C
R2505	B	C	20C
R2506	B	C	20C
R2507	B	C	20D
R2508	B	C	19D
R2509	B	C	19B
R2510	B	C	20B
R2511	B	C	20B
R2512	B	C	19B
R2513	B	C	19B
R2514	B	C	20D
R2515	B	C	20C
R2519	B	C	19D
R2520	B	C	20D
R2521	B	C	19B
R2522	B	C	18D
R3011	B	C	9F
R3012	B	C	8E
R3013	B	C	8E
R3014	B	C	8E
R3015	B	C	8E
R3016	B	C	8E
R3017	B	C	8E
R3018	B	C	8E
R3019	B	C	8E
R3020	B	C	8E
R3021	B	C	8E
R3022	B	C	8E
R3025	B	C	7E
R3026	B	C	7E
R3027	B	C	7E
R3029	B	C	9D
R3030	B	C	8D
R3031	B	C	8D
R3033	B	C	8C
R3034	B	C	8C
R3035	B	C	7B
R3036	B	C	8B
R3037	B	C	8C
R3038	B	C	9D
R3039	B	C	9C
R3040	B	C	8C
R3041	B	C	8C
R3042	B	C	8C
R3044	B	C	9C
R3046	B	C	8B
R3047	B	C	8B
R3048	B	C	8B
R3049	B	C	8B
R3050	B	C	8B
R3051	B	C	9C
R3052	B	C	9C
R3053	B	C	9C
R3054	B	C	10B
R3055	B	C	10B
R3056	B	C	10C
R3057	B	C	11B
R3058	B	C	11B
R3059	B	C	11B
R3060	B	C	11B
R3061	B	C	11B
R3062	B	C	11B
R3063	B	C	11B
R3066	B	C	12B
R3069	B	C	11C
R3071	B	C	11C
R3072	B	C	13B
R3073	B	C	13B
R3074	B	C	13B
R3075	B	C	12C
R3076	B	C	12C
R3077	B	C	13C
R3078	B	C	12C
R3079	B	C	13C
R3080	B	C	12D
R3081	B	C	12D
R3083	B	C	12D
R3085	B	C	12D
R3086	B	C	12D
R3087	B	C	12E
R3088	B	C	12E
R3089	B	C	13E
R3090	B	C	12F
R3091	B	C	12E
R3092	B	C	12E
R3093	B	C	12E
R3094	B	C	12E
R3095	B	C	12E
R3096	B	C	12E
R3097	B	C	11E
R3103	B	C	11E
R3104	B	C	11E
R3105	B	C	11E
R3106	B	C	11E
R3201	B	C	7H
R3202	B	C	7H
R3203	B	C	7H
R3204	B	C	7H
R3205	A	D	13C
R3206	B	C	5D
R3207	B	C	21E
R3208	A	D	18A
R3209	A	D	18B
R3210	B	C	9B
R3211	B	C	9B
R3212	A	D	5B
R3213	B	C	9B
R3214	B	C	8A
R3215	B	C	8A
R3216	B	C	8A
R3217	B	C	7B
R3218	B	C	5C
R3219	B	C	5B
R3220	B	C	5C
R3221	B	C	18P
R3222	B	C	4C
R3223	B	C	6D
R3224	B	C	6C
R3225	B	C	7A
R3226	B	C	10B
R3227	B	C	10B
R3228	B	C	11B
R3229	B	C	11C
R3230	B	C	12B
R3231	B	C	12B
R3232	B	C	8F
R3233	B	C	8D
R3234	B	C	8D
R3235	B	C	14B
R3236	B	C	14B
R3237	B	C	2B
R3238	B	C	2C
R3239	B	C	2B
R3240	B	C	14F
R3241	B	C	3B
R3242	B	C	8E
R3243	B	C	3B
R3244	B	C	7B
R3245	B	C	8F
R3246	B	C	8E
R3247	B	C	8E
R3251	B	C	3B
R3252	B	C	9E
R3304	B	C	14C
R3305	B	C	15C
R3306	B	C	15C
R3307	B	C	15B
R3308	B	C	15C
R3309	B	C	15B
R3310	B	C	15C
R3311	B	C	15B
R3312	B	C	15C
R3313	B	C	15B
R3314	B	C	16B
R3316	B	C	16B
R3317	B	C	16C
R3318	B	C	16B
R3319	B	C	16C
R3322	B	C	16D
R3323	B	C	16D
R3324	B	C	16D
R3325	B	C	16D
R3326	B	C	16E
R3327	B	C	16E
R3328	B	C	16E
R3329	B	C	16D
R3330	B	C	15D
R3331	B	C	16E
R3332	B	C	15D
R3333	B	C	15E
R3334	B	C	15D
R3335	B	C	15D
R3336	B	C	15E
R3337	B	C	15E
R3338	B	C	15D
R3339	B	C	15D
R3340	B	C	14D
R3341	B	C	14D
R3342	B	C	14D
R3345	B	C	20N
R3346	B	C	22N
R3353	B	C	15B
R3354	B	C	16B
R3501	B	C	14B
R3502	B	C	14B
R3503	B	C	13A
R3504	B	C	14A
R3505	B	C	13A
R3506	B	C	14A
R3961	B	C	16B
R3962	B	C	17C
R4001	B	C	11F
R4002	B	C	10F
R4003	B	C	10F
R4004	B	C	10F
R4005	B	C	9F
R4006	B	C	9F
R4007	B	C	9F
R4008	B	C	7E
R4009	B	C	12F
R4010	B	C	11F
R4011	B	C	11F
R4012	B	C	11F
R4013	B	C	10G
R4014	B	C	11G
R4015	B	C	11F
R4016	B	C	11F
R4017	B	C	11F
R4018	B	C	11F
R4019	B	C	10G
R4020	B	C	7F
R4021	B	C	10F
R5001	A	D	5P
R5101	A	D	3M
R5102	A	D	3L
R5103	A	D	2M
R5104	A	D	4J
R5105	A	D	3K
R5106	A	D	2K
R5107	A	D	2J
R5108	A	D	4M
R5109	B	C	2K
R5110	B	C	2K
R5111	B	C	4L
R5112	B	C	1J
R5113	A	D	2L
R5114	A	D	2N
R5115	A	D	2M
R5116	A	D	2M
R5301	A	D	1C
R5302	B	C	3C
R5303	B	C	3C
R5304	A	D	1E
R5305	A	D	4I
R5306	B	C	3D
R5307	B	C	1F
R5308	B	C	4G
R5309	B	C	4G
R5310	B	C	3F
R5311	B	C	3E
R5312	B	C	1D
R5313	A	D	1D
R5314	B	C	3D
R5315	B	C	4D
R5316	B	C	4C
R5317	B	C	3B
R5318	B	C	3B
R5319	A	D	3D
R5320	B	C	2D
R5321	B	C	4E
R5322	B	C	4F
R5323	A	D	4H
R5324	A	D	5C
R5325	B	C	3D
R5326	B	C	3D
R5327	B	C	3D
R5328	B	C	5M
R5329	A	D	5N
R5330	A	D	5M
R5331	B	C	3C
R5332	B	C	3C
R5333	A	D	2E
R5334	A	D	2E
R6020	B	C	22N
R6021	B	C	22M
R6022	B	C	22N
R6023	B	C	22M
R6025	B	C	22N
R6030	B	C	22I
R6031	B	C	21K
R6032	B	C	20G
R6033	B	C	21G
R6034	B	C	22I
R6035	B	C	22H
R6037	B	C	22H
R6038	B	C	22L
R6039	B	C	22H
R6050	B	C	21O
R6051	B	C	22O
R6052	B	C	22O
R6053	B	C	22P
R6080	B	C	21G
R6081	B	C	21G
R6082	B	C	22N
R6101	B	C	19P
R6102	B	C	20P
R6508	B	C	21F
R6509	B	C	21G
R6510	B	C	21F
R6511	B	C	21G
R6551	B	C	21I
R6552	B	C	21I
R6553	A	D	21D
R6554	B	C	22E
R7202	B	C	16P
R7203	B	C	16P
R7204	A	D	15P
R7501	B	C	12P
R7502	B	C	13P
R7503	B	C	12O
R7504	B	C	13O
R7506	B	C	9P
R7507	B	C	9P
R7509	B	C	9P
R7511	B	C	9P
R7513	B	C	7P
R7514	B	C	8P
R7515	B	C	7O
R7516	B	C	8P
R7517	B	C	9P
R7518	B	C	9O
R7519	A	D	9O
R7520	B	C	8O
R7521	A	D	8O
R7522	B	C	8O
R7523	B	C	11P
R7524	B	C	11P
R7525	B	C	11Q
R7526	B	C	11P
R7527	B	C	11P
R7528	B	C	10P
R7529	B	C	10P
R7530	B	C	21A
R7531	B	C	11P
R7532	B	C	12O
R7533	B	C	12O
R7534	B	C	12P
R7535	B	C	13O
R7536	B	C	15P
R7537	B	C	14P
R7538	B	C	13O
R7541	A	D	11O
R7542	B	C	11O
TEST POINT			
TP106	A	D	21H
TP111	A	D	15M
TP2033	A	D	8M
TP2034	A	D	21H
TP2253	A	D	16L
TP2254	A	D	16L
TP3901	B	C	8C
TP3902	B	C	8B
TP3903	B	C	11C
TP3904	B	C	11C
TP3905	B	C	12B
TP4001	A	D	9M
OTHER			
CF2501	A	D	18D
CF3301	A	D	16C
CF6031	A	D	21J
CP3501	A	D	14A
CP4001	A	D	5J
CP5301	A	D	1E
CP5302	A	D	4G
CP5303	A	D	4E
F5001	A	D	1P
GND1	A	D	19K
GND2	A	D	21P
K5101	A	D	3K
LC2501	A	D	20B
LF5001	A	D	2P
LF5002	A	D	4O
LPF2501	A	D	21C
PC3001	A	D	17A
PC3002	A	D	9C
PC5101	A	D	4L
PC5102	A	D	4M
PC5301	A	D	2D
S3002	A	D	7A
S6050	A	D	17P
SG5001	A	D	3P
T2051	A	D	6J
T2052	A	D	20F
T5001	A	D	1J
TU6001	A	D	21P
VA5001	A	D	2O
VA5002	A	D	4P
VR2251	A	D	19L
WR1	A	D	16I
WR2	A	D	14O
WR3	A	D	11I
WR4	A	D	21I
X1	A	D	14J
X2	A	D	14J
X3001	A	D	11C
X3002	A	D	12C

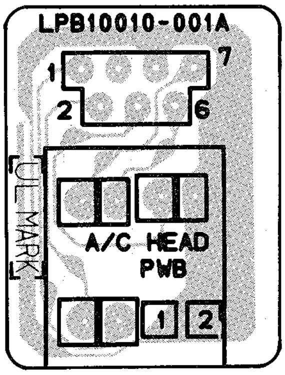
4.11 MAIN, A/C HEAD AND LOADING MOTOR CIRCUIT BOARDS


DANGEROUS VOLTAGE

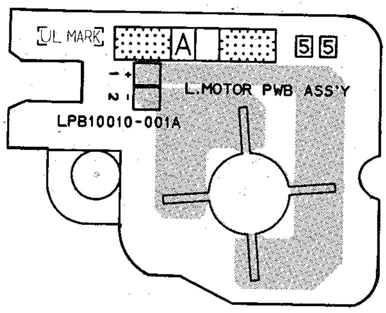
PRIMARY
REG
AV
STYLE PIN
03 MAIN PWB
LPB10048-001D
LIVE BRN
NEUTRAL BLU
P
O
N
M
L
K
J
I
H
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
12
13


TERM
FMA
TUNER
VSC
SYSCON
CN7502
CN7503
CN7201
CN304
CN1
CN3501
CN2002
CN6701
CN6103
CN1901
CN7505
CN7504
IC2201
IC3
IC3301
IC3501
IC2501
IC6080
J7503
J7504
J6101
J6102
S6050
CN3005
UL MARK
A
3
14
15
16
17
18
19
20
21
22

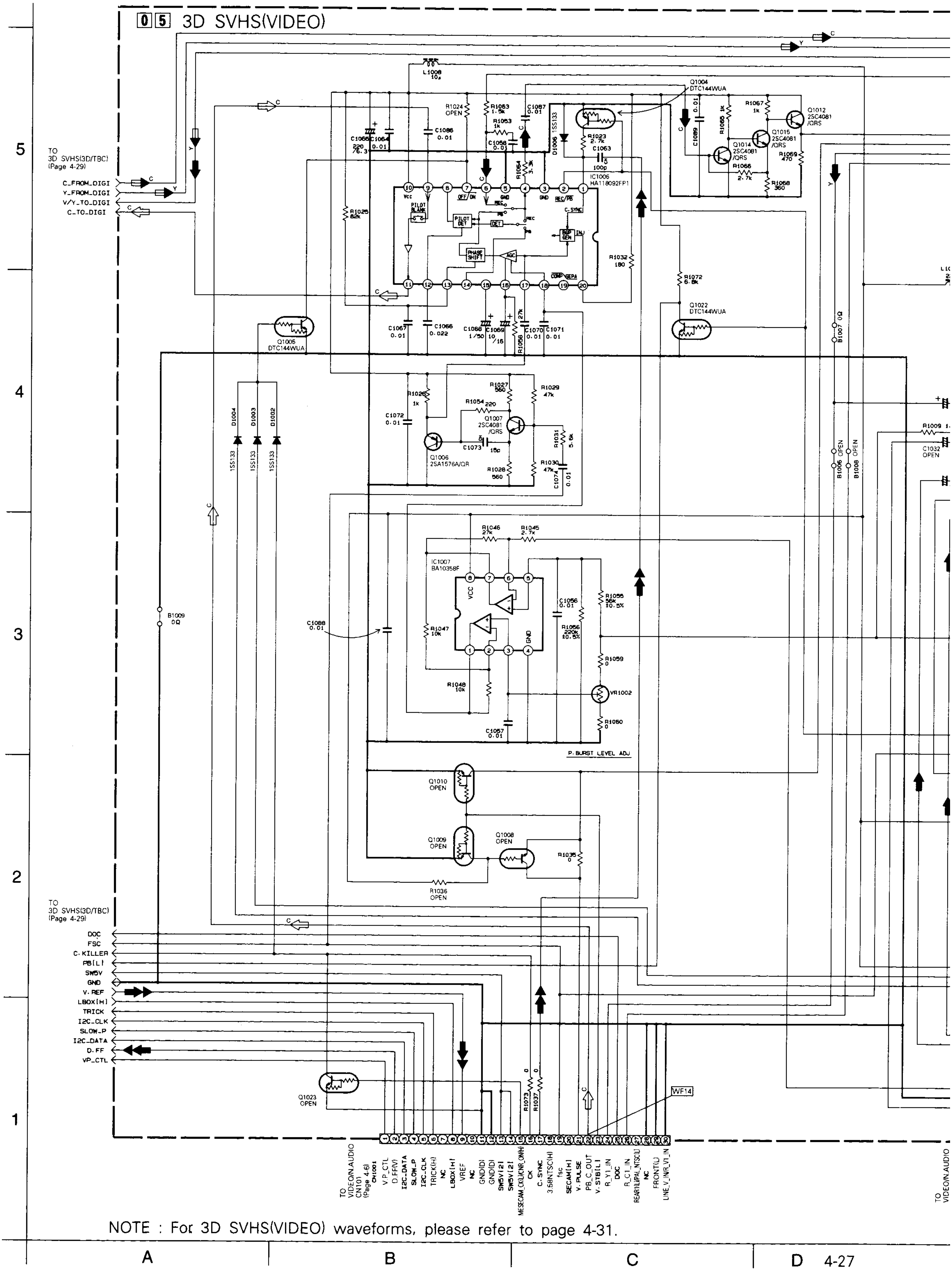
— A/C HEAD —


LPB10010-001A
1
2
7
6
UL MARK
A/C HEAD
PWB
1
2

— LOADING MOTOR —

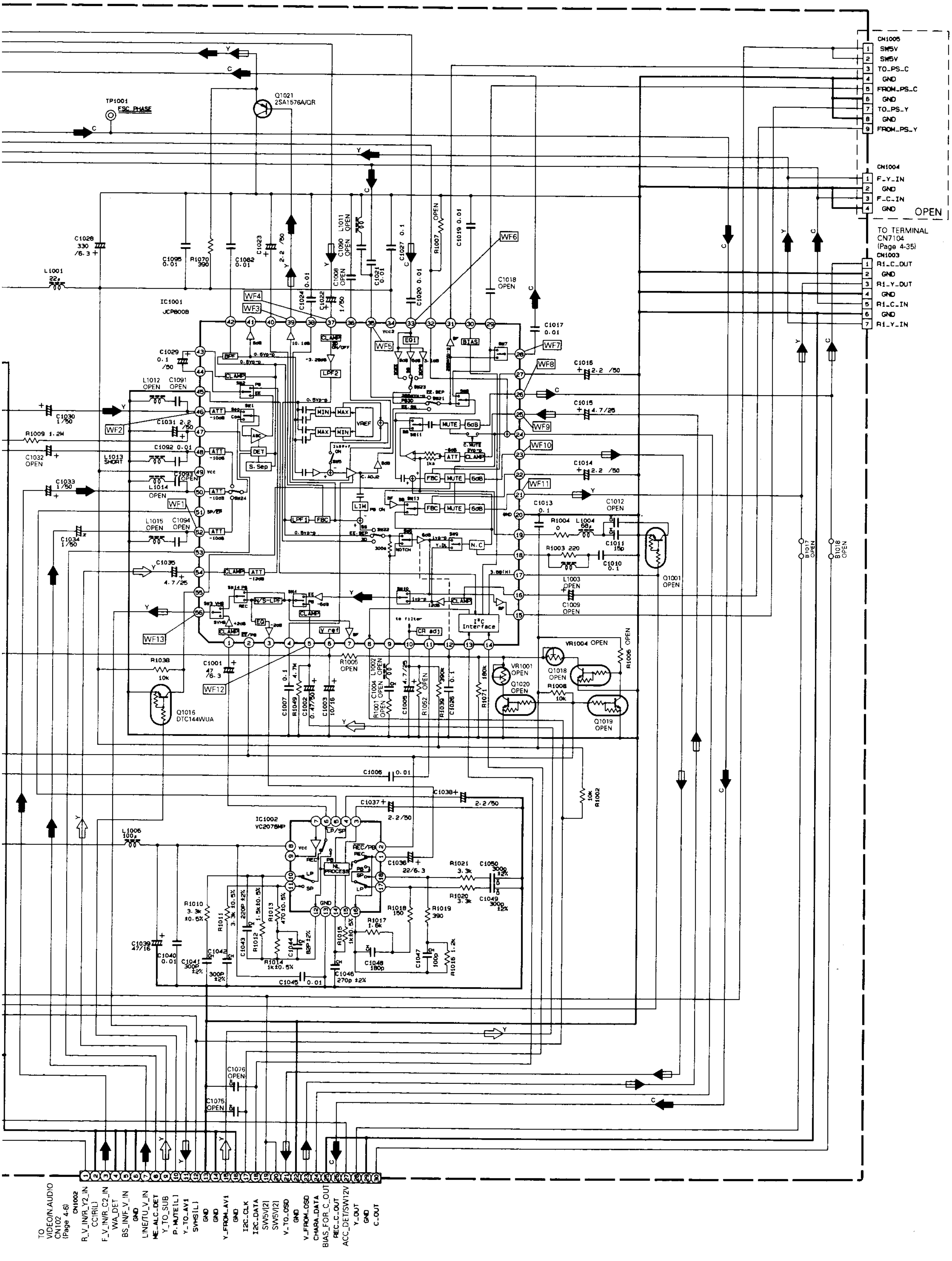

UL MARK
A
5
5
L.MOTOR PWB ASS'Y
LPB10010-001A
1
2

4.12 3D SVHS(VIDEO) SCHEMATIC DIAGRAM



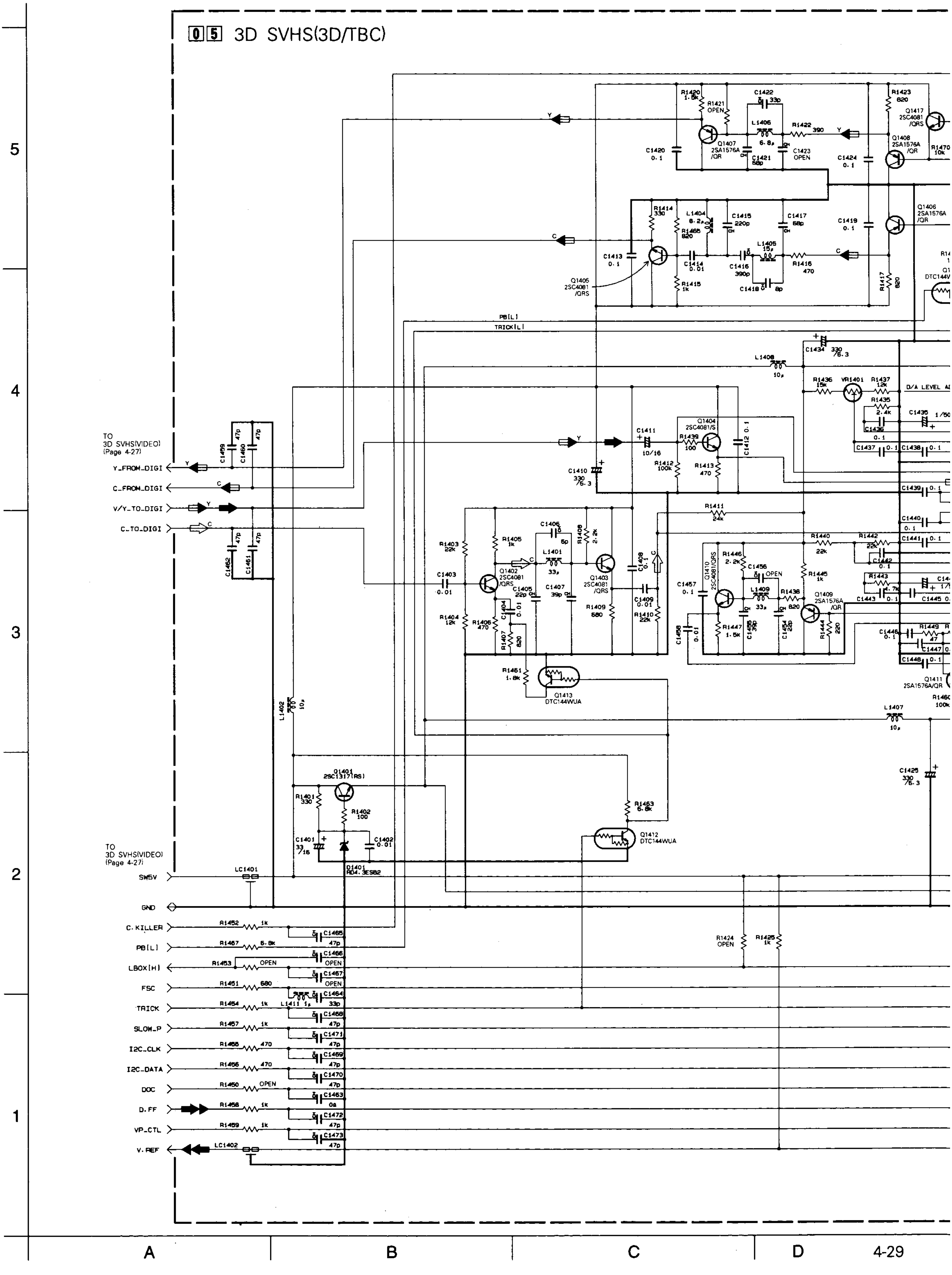
05 3D SVHS(VIDEO)
TO 3D SVHS(3D/TBC) (Page 4-29)
C_FROM_DIGI
Y_FROM_DIGI
V/Y_TO_DIGI
C_TO_DIGI
L1008 10μ
R1024 OPEN
R1063 1.5k
R1053 1k
C1087 0.01
C1058 0.01
R1064 3.3k
D1006 1SS133
Q1004 DTC144WUA
R1023 2.7k
C1063 100p
IC1006 HA118092FP1
C1065 220 /6.3
C1064 0.01
C1086 0.01
R1025 82k
PILOT BLANK
PILOT DET
DET
PHASE SHIFT
AGC
BGP GEN
INJ
C.SYNC
COMP SEPA
OFF/ON
GND
REC/PB
VCC
C1089 0.01
R1065 1k
R1067 1k
Q1012 2SC4081 /QRS
Q1015 2SC4081 /QRS
Q1014 2SC4081 /QRS
R1069 470
R1066 2.7k
R1068 360
R1032 180
R1072 6.8k
Q1022 DTC144WUA
Q1005 DTC144WUA
C1067 0.01
C1066 0.022
C1068 1/50
C1069 10 /16
R1058 27k
C1070 0.01
C1071 0.01
B1007 0Ω
R1026 1k
R1027 560
R1029 47k
R1054 220
Q1007 2SC4081 /QRS
C1072 0.01
C1073 15p
Q1006 2SA1576A/QR
R1028 560
R1030 47k
R1031 5.6k
C1074 0.01
D1004 1SS133
D1003 1SS133
D1002 1SS133
B1006 OPEN
B1008 OPEN
R1009
C1032 OPEN
R1046 27k
R1045 2.7k
IC1007 BA10358F
C1056 0.01
R1055 56k ±0.5%
R1056 220k ±0.5%
R1047 10k
R1048 10k
R1059 0
VR1002
R1060 0
C1057 0.01
C1088 0.01
B1009 0Ω
P.BURST LEVEL ADJ
Q1010 OPEN
Q1009 OPEN
Q1008 OPEN
R1035 0
R1036 OPEN
TO 3D SVHS(3D/TBC) (Page 4-29)
DOC
FSC
C.KILLER
PB(L)
SW5V
GND
V.REF
LBOX(H)
TRICK
I2C_CLK
SLOW_P
I2C_DATA
D.FF
VP_CTL
Q1023 OPEN
R1073 0
R1037 0
WF14
TO VIDEO/N.AUDIO CN101 (Page 4-6) CN1001
VP_CTL
D.FF(V)
I2C_DATA
SLOW_P
I2C_CLK
TRICK(H)
NC
LBOX(H)
VREF
NC
GND(D)
GND(D)
SW5V(2)
SW5V(2)
MESECAM_CK(L)CNR_ON(H)
CK
C.SYNC
3.58NTSC(H)
fsc
SECAM(H)
V.PULSE
PB_C_OUT
V.STB(L)
R_Y1_IN
DOC
R_C1_IN
REAR(L)PAL_NTSC(L)
NC
FRONT(L)
LINE_V_IN/R_V1_IN
TO VIDEO/N.AUDIO
1
2
3
4
5
A
B
C
D

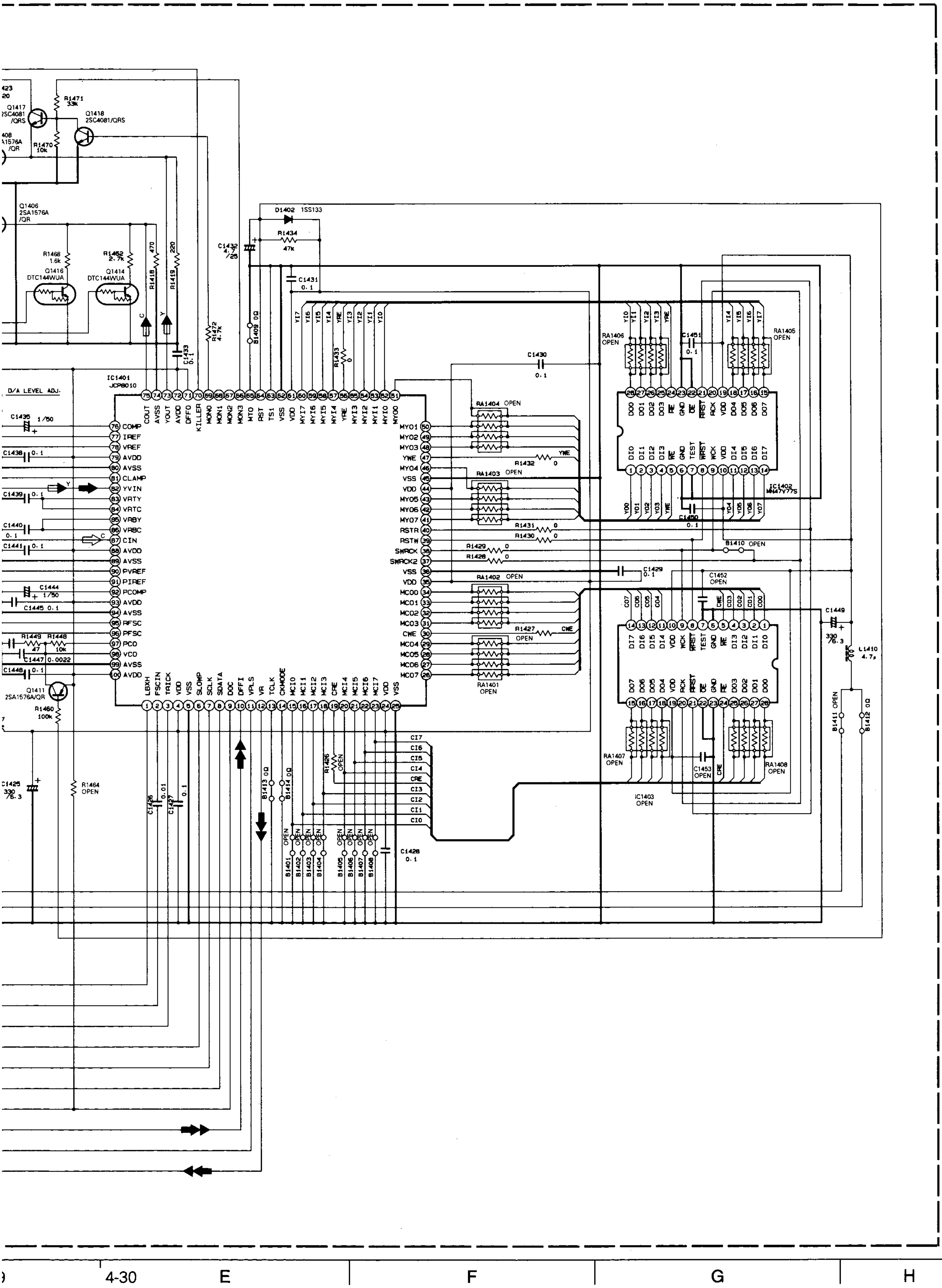
NOTE : For 3D SVHS(VIDEO) waveforms, please refer to page 4-31.



CN1005
1 SW5V
2 SW5V
3 TO_PS_C
4 GND
5 FROM_PS_C
6 GND
7 TO_PS_Y
8 GND
9 FROM_PS_Y
CN1004
1 F_Y_IN
2 GND
3 F_C_IN
4 GND
OPEN
TO TERMINAL
CN7104
(Page 4-35)
CN1003
1 R1_C_OUT
2 GND
3 R1_Y_OUT
4 GND
5 R1_C_IN
6 GND
7 R1_Y_IN
TP1001
FSC PHASE
Q1021
2SA1576A/QR
IC1001
JCP8008
IC1002
VC2076MP
Q1016
DTC144WUA
Q1001
OPEN
Q1018
OPEN
Q1019
OPEN
Q1020
OPEN
VR1001
OPEN
VR1004 OPEN
I²C Interface
WF1
WF2
WF3
WF4
WF5
WF6
WF7
WF8
WF9
WF10
WF11
WF12
WF13
NL PROCESS
REC/PB
LP/SP
TO
VIDEO/AUDIO
CN102
(Page 4-6)
CN1002
1 R_V_IN/R_Y2_IN
2 F_V_IN/R_C2_IN
3 CC(R(L)
4 WA_DET
5 BS_IN/F_V_IN
6 GND
7 LINE/TU_V_IN
8 ME_ALC_DET
9 Y_TO_SUB
10 P_MUTE(L)
11 Y_TO_AV1
12 SVHS(L)
13 GND
14 GND
15 Y_FROM_AV1
16 GND
17 I2C_CLK
18 I2C_DATA
19 SW5V(2)
20 SW5V(2)
21 V_TO_OSD
22 GND
23 V_FROM_OSD
24 CHARA_DATA
25 BIAS_FOR_C_OUT
26 REC_C_OUT
27 ACC_DET/SW12V
28 Y_OUT
29 GND
30 C_OUT

4.13 3D SVHS(3D/TBC) SCHEMATIC DIAGRAM

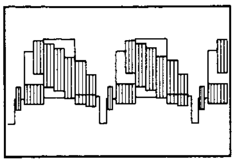

05 3D SVHS(3D/TBC)
5
4
3
2
1
A
B
C
D
TO
3D SVHS(VIDEO)
(Page 4-27)
Y_FROM_DIGI
C_FROM_DIGI
V/Y_TO_DIGI
C_TO_DIGI
SW5V
GND
C.KILLER
PB[L]
LBOX[H]
FSC
TRICK
SLOW_P
I2C_CLK
I2C_DATA
DOC
D.FF
VP_CTL
V.REF
C1459 47p
C1460 47p
C1462 47p
C1461 47p
LC1401
LC1402
R1452 1k
R1467 6.8k
R1453 OPEN
R1451 680
R1454 1k
L1411 1μ
R1457 1k
R1455 470
R1456 470
R1450 OPEN
R1458 1k
R1459 1k
C1465 47p
C1466 OPEN
C1467 OPEN
C1464 33p
C1468 47p
C1471 47p
C1469 47p
C1470 47p
C1463 0a
C1472 47p
C1473 47p
L1402 10μ
Q1401 2SC1317(RS)
R1401 330
R1402 100
C1401 33 /16
C1402 0.01
D1401 RD4.3ESB2
Q1412 DTC144WUA
R1463 6.8k
Q1413 DTC144WUA
R1461 1.8k
R1403 22k
R1404 12k
R1405 1k
R1406 470
R1407 820
C1403 0.01
Q1402 2SC4081 /QRS
C1404 0.01
C1405 22p
C1406 5p
L1401 33μ
C1407 39p
R1408 2.2k
Q1403 2SC4081 /QRS
R1409 680
C1408 0.1
C1409 0.01
R1410 22k
R1411 24k
C1410 330 /6.3
C1411 10/16
R1439 100
R1412 100k
Q1404 2SC4081/S
R1413 470
C1412 0.1
L1408 10μ
C1434 330 /6.3
R1436 15k
VR1401
R1437 12k
R1435 2.4k
D/A LEVEL AD
C1435 1/50
C1436 0.1
C1437 0.1
C1438 0.1
C1439 0.1
C1440 0.1
R1440 22k
R1442 22k
C1441 0.1
C1442 0.1
R1443 4.7k
C1443 0.1
C1445 0.
R1446 2.2k
Q1410 2SC4081/QRS
C1456 OPEN
R1445 1k
C1457 0.1
L1409 33μ
R1438 820
Q1409 2SA1576A /QR
C1458 0.01
R1447 1.5k
C1455 39p
C1454 22p
R1444 220
C1446 0.1
R1449 47
C1447 0.
C1448 0.1
Q1411 2SA1576A/QR
R1460 100k
L1407 10μ
C1425 330 /6.3
R1424 OPEN
R1425 1k
Y
C
PB[L]
TRICK[L]
R1420 1.8k
R1421 OPEN
C1422 33p
L1406 6.8μ
R1422 390
Q1407 2SA1576A /QR
C1420 0.1
C1421 68p
C1423 OPEN
R1423 820
Q1417 2SC4081 /QRS
Q1408 2SA1576A /QR
C1424 0.1
R1470 10k
R1414 330
L1404 8.2μ
R1468 820
C1415 220p
C1417 68p
L1405 15μ
C1419 0.1
Q1406 2SA1576A /QR
C1413 0.1
C1414 0.01
C1416 390p
R1416 470
C1418 8p
R1415 1k
R1417 820
Q1405 2SC4081 /QRS
DTC144


D/A LEVEL ADJ.
IC1401
JCP8010
COMP
IREF
VREF
AVDD
AVSS
CLAMP
YVIN
VRTY
VRTC
VRBY
VRBC
CIN
AVDD
AVSS
PVREF
PIREF
PCOMP
AVDD
AVSS
RFSC
PFSC
PCO
VCO
AVSS
AVDD
COUT
AVSS
YOUT
AVDD
DFFO
KILLER
MON0
MON1
MON2
MON3
MTO
RST
TS1
VSS
VDD
MYI7
MYI6
MYI5
MYI4
YRE
MYI3
MYI2
MYI1
MYI0
MYO0
MYO1
MYO2
MYO3
YWE
MYO4
VSS
VDD
MYO5
MYO6
MYO7
RSTR
RSTW
SWRCK
SWRCK2
VSS
VDD
MCO0
MCO1
MCO2
MCO3
CWE
MCO4
MCO5
MCO6
MCO7
LBXH
FSCIN
TRICK
VDD
VSS
SLOWP
SCLK
SDATA
DOC
DFFI
VPLS
VR
TCLK
CKMODE
MCI0
MCI1
MCI2
MCI3
CRE
MCI4
MCI5
MCI6
MCI7
VDD
VSS
Q1417
2SC4081/QRS
Q1418
2SC4081/QRS
R1471
33k
R1470
10k
Q1406
2SA1576A
/QR
R1468
1.6k
Q1416
DTC144WUA
R1452
2.7k
Q1414
DTC144WUA
R1418
470
R1419
220
C1433
0.1
R1472
4.7k
D1402 1SS133
R1434
47k
C1432
4.7
/25
C1431
0.1
B1409 0Ω
R1433
0
C1430
0.1
RA1404 OPEN
R1432 0
RA1403 OPEN
R1431 0
R1430 0
R1429 0
R1428 0
C1429
0.1
RA1402 OPEN
R1427 OPEN
RA1401
OPEN
C1435 1/50
C1438 0.1
C1439 0.1
C1440 0.1
C1441 0.1
C1444 1/50
C1445 0.1
R1449 47
R1448 10k
C1447 0.0022
C1448 0.1
Q1411
2SA1576A/QR
R1460
100k
C1425
330
/6.3
R1464
OPEN
C1426 0.01
C1427 0.1
B1413 0Ω
B1414 0Ω
R1426 OPEN
CI7
CI6
CI5
CI4
CRE
CI3
CI2
CI1
CI0
B1401
B1402
B1403
B1404
B1405
B1406
B1407
B1408
OPEN
C1428
0.1
RA1406
OPEN
RA1405
OPEN
C1451
0.1
IC1402
MN47V77S
DO0
DO1
DO2
DO3
RE
GND
OE
RRST
RCK
VDD
DO4
DO5
DO6
DO7
DI0
DI1
DI2
DI3
WE
GND
TEST
WRST
WCK
VDD
DI4
DI5
DI6
DI7
C1450
0.1
B1410 OPEN
C1452
OPEN
IC1403
OPEN
RA1407
OPEN
RA1408
OPEN
C1453
OPEN
C1449
330
/6.3
L1410
4.7μ
B1411 OPEN
B1412 0Ω
C
Y
E
F
G
H

WAVEFORMS

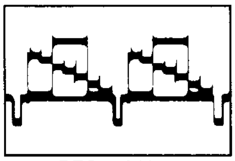
— 3D SVHS(VIDEO) —

WF1 IC1001-52



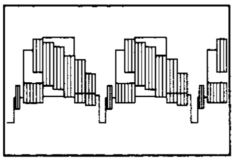
REC 0.76 Vp-p
20 mV/20 µsec/DIV

WF2 IC1001-46



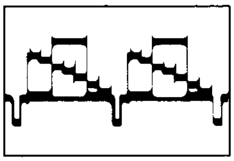
REC 1.0 Vp-p
20 mV/20 µsec/DIV

WF3-1 IC1001-39



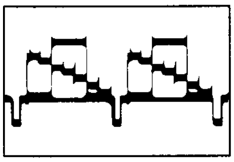
REC 1.8 Vp-p
50 mV/20 µsec/DIV

WF3-2 IC1001-39



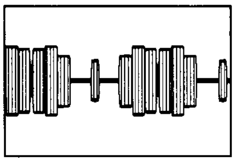
REC/PB 1.7 Vp-p
50 mV/20 µsec/DIV

WF4 IC1001-37



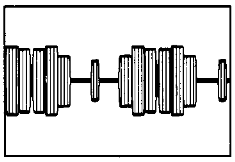
REC/PB 0.8 Vp-p
20 mV/20 µsec/DIV

WF5 IC1001-35



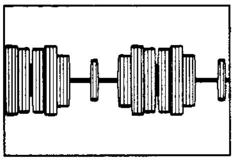
REC 0.65 Vp-p
20 mV/20 µsec/DIV

WF6-1 IC1001-33



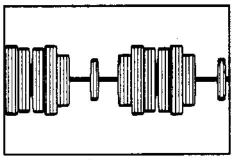
REC 0.35 Vp-p
10 mV/20 µsec/DIV

WF6-2 IC1001-33



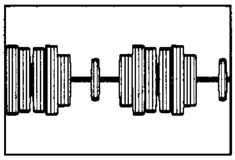
PB 0.5 Vp-p
10 mV/20 µsec/DIV

WF7 IC1001-28



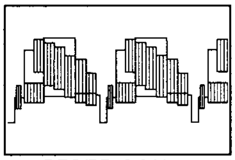
REC 0.7 Vp-p
20 mV/20 µsec/DIV

WF8 IC1001-26



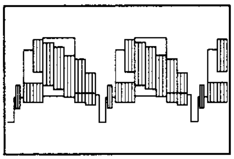
REC/PB 1.5 Vp-p
50 mV/20 µsec/DIV

WF9 IC1001-25



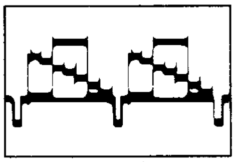
REC/PB 2.2 Vp-p
50 mV/20 µsec/DIV

WF10 IC1001-23



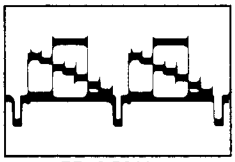
REC/PB 2.2 Vp-p
50 mV/20 µsec/DIV

WF11 IC1001-21



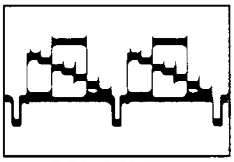
REC/PB 2.2 Vp-p
50 mV/20 µsec/DIV

WF12 IC1001-5



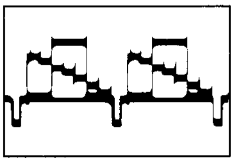
PB 0.56 Vp-p
20 mV/20 µsec/DIV

WF13-1 IC1001-56



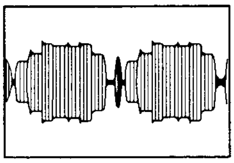
REC 0.52 Vp-p
20 mV/20 µsec/DIV

WF13-2 IC1001-56



PB 0.56 Vp-p
20 mV/20 µsec/DIV

WF14 CN1001-22



PB 0.62 Vp-p
20 mV/20 µsec/DIV

COMPONENT PARTS LOCATION GUIDE <3D SVHS>

REF.NO.	LOCATION		
CAPACITOR			
C1001	A	D	10B
C1002	A	D	10B
C1003	A	D	10C
C1004	B	C	11C
C1005	A	D	11C
C1006	B	C	11C
C1007	A	C	10C
C1008	A	C	9D
C1009	A	D	11C
C1010	A	C	10D
C1011	B	C	11D
C1012	A	C	11D
C1013	A	C	9C
C1014	A	D	11D
C1015	A	D	12A
C1016	A	D	10D
C1017	B	C	10E
C1018	B	C	10E
C1019	B	C	10E
C1020	B	C	9E
C1021	B	C	9E
C1022	A	D	9D
C1023	A	D	9D
C1024	A	C	9C
C1026	B	C	10B
C1027	A	C	10D
C1028	A	D	9C
C1029	A	D	9D
C1030	A	D	8C
C1031	A	D	9C
C1032	A	D	9B
C1033	A	D	9B
C1034	A	D	9B
C1035	A	D	9B
C1036	A	D	12B
C1037	A	D	12B
C1038	A	D	12C
C1039	A	D	12D
C1040	B	C	12D
C1041	B	C	12D
C1042	B	C	13C
C1043	A	C	12C
C1044	A	C	13C
C1045	B	C	12C
C1046	A	C	13C
C1047	A	C	12B
C1048	A	C	13B
C1049	B	C	13B
C1050	B	C	12B
C1056	B	C	8D
C1057	B	C	8D
C1058	B	C	7C
C1063	B	C	7C

REF.NO.	LOCATION		
C1064	B	C	7C
C1065	A	D	7B
C1066	B	C	7C
C1067	B	C	7C
C1068	A	D	8D
C1069	A	D	8D
C1070	B	C	7D
C1071	A	C	8D
C1072	B	C	7D
C1073	A	C	7D
C1074	B	C	7D
C1075	A	C	10A
C1076	A	C	10A
C1082	B	C	9D
C1086	B	C	7C
C1087	B	C	7C
C1088	B	C	8D
C1089	A	C	7E
C1090	B	C	9D
C1091	B	C	8C
C1092	B	C	8B
C1093	B	C	8B
C1094	B	C	9B
C1095	A	C	10D
C1401	A	D	6B
C1402	B	C	6B
C1403	B	C	6D
C1404	B	C	6D
C1405	A	C	6D
C1406	B	C	6D
C1407	A	C	5D
C1408	A	C	5D
C1409	A	C	6D
C1410	A	D	6D
C1411	A	D	5D
C1412	A	C	5D
C1413	A	C	6E
C1414	B	C	6E
C1415	B	C	5E
C1416	B	C	5E
C1417	B	C	5E
C1418	B	C	5E
C1419	B	C	4E
C1420	A	C	5D
C1421	A	C	5E
C1422	A	C	4E
C1423	A	C	4E
C1424	A	C	5D
C1425	A	D	3B
C1426	B	C	4C
C1427	B	C	4C
C1428	B	C	3C
C1429	B	C	3C
C1430	B	C	3D

REF.NO.	LOCATION		
C1431	B	C	3D
C1432	A	D	3E
C1433	B	C	4D
C1434	A	D	4B
C1435	A	D	5E
C1436	B	C	4D
C1437	B	C	5D
C1438	B	C	4D
C1439	B	C	4D
C1440	B	C	4D
C1441	B	C	4D
C1442	A	C	5D
C1443	B	C	5C
C1444	A	D	5C
C1445	B	C	4C
C1446	A	C	4C
C1447	A	C	4C
C1448	A	C	4C
C1449	A	D	2B
C1450	B	C	2D
C1451	B	C	1E
C1452	B	C	2C
C1453	B	C	2B
C1454	A	C	6B
C1455	B	C	5B
C1456	B	C	5B
C1457	B	C	5B
C1458	A	C	5C
C1459	A	C	6E
C1460	A	C	6E
C1461	A	C	6D
C1462	A	C	6C
C1463	A	C	6C
C1464	A	C	6C
C1465	A	C	6C
C1466	B	C	6A
C1467	A	C	5B
C1468	A	C	5B
C1469	A	C	5B
C1470	A	C	5B
C1471	A	C	5B
C1472	A	C	5B
C1473	A	C	4B
CONNECTOR			
CN1001	A	D	6A
CN1002	A	D	9A
CN1003	A	D	12E
CN1004	A	D	7E
CN1005	A	D	11E
DIODE			
D1002	A	D	7B
D1003	A	D	7B
D1004	A	D	8B
D1006	A	D	8C

REF.NO.	LOCATION		
D1401	A	D	6B
D1402	A	D	3E
IC			
IC1001	B	C	10D
IC1002	A	C	12C
IC1006	A	C	7C
IC1007	A	C	8D
IC1401	A	C	4D
IC1402	A	C	2D
IC1403	A	C	2C
COIL			
L1001	A	D	9B
L1002	A	D	11B
L1003	A	D	11D
L1004	A	D	11D
L1006	A	D	12D
L1008	A	D	7B
L1011	A	D	9E
L1012	A	D	8C
L1013	A	D	8B
L1014	A	D	8A
L1015	A	D	9A
L1401	A	D	6D
L1402	A	D	6C
L1404	A	D	5E
L1405	A	D	5E
L1406	A	D	4E
L1407	A	D	4B
L1408	A	D	5B
L1409	A	D	5B
L1410	A	D	3B
L1411	A	D	6C
TRANSISTOR			
Q1001	A	C	11D
Q1004	A	C	8B
Q1005	B	C	7B
Q1006	B	C	7D
Q1007	A	C	7D
Q1008	A	C	8E
Q1009	A	C	8E
Q1010	B	C	8E
Q1012	B	C	7E
Q1014	B	C	7D
Q1015	A	C	7E
Q1016	A	C	10C
Q1018	B	C	11B
Q1019	B	C	11B
Q1020	B	C	10B
Q1021	A	C	9D
Q1022	A	C	7E
Q1023	B	C	7B
Q1401	A	D	6B
Q1402	B	C	6D
Q1403	A	C	6D

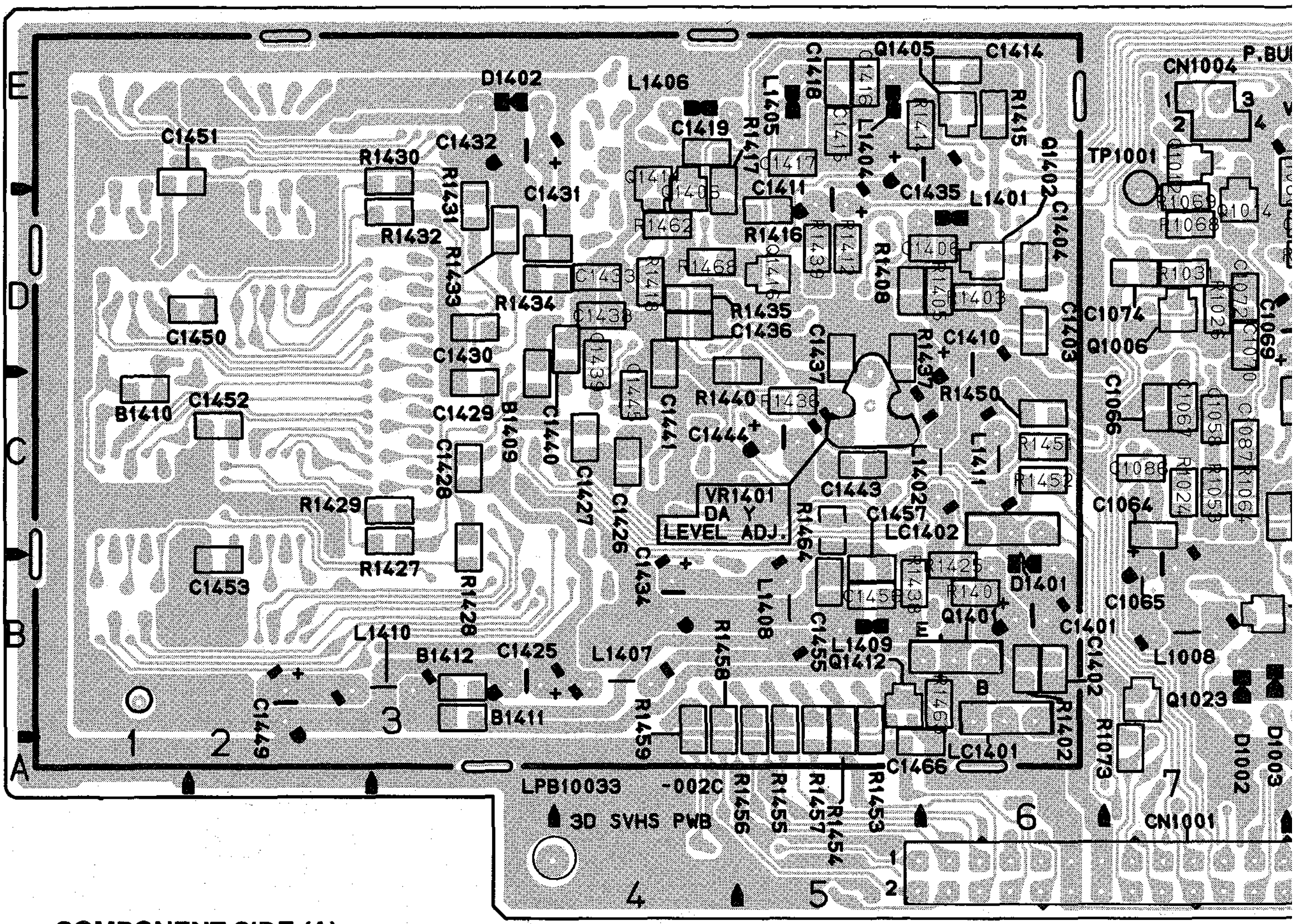
REF.NO.	LOCATION		
Q1404	A	C	5D
Q1405	B	C	6E
Q1406	B	C	4D
Q1407	A	C	5E
Q1408	A	C	4D
Q1409	A	C	6B
Q1410	A	C	5B
Q1411	A	C	5C
Q1412	B	C	5B
Q1413	A	C	6D
Q1414	B	C	4D
Q1416	B	C	5D
Q1417	A	C	4D
Q1418	A	C	4E
RESISTOR			
R1001	B	C	11C
R1002	A	C	10C
R1003	A	C	10D
R1004	B	C	11D
R1005	B	C	10C
R1006	A	C	10B
R1007	B	C	10E
R1008	A	C	10B
R1009	A	C	9C
R1010	B	C	12C
R1011	B	C	12C
R1012	A	C	12C
R1013	A	C	13C
R1014	A	C	13C
R1015	A	C	13C
R1016	A	C	12B
R1017	A	C	13B
R1018	A	C	13B
R1019	A	C	12B
R1020	B	C	13B
R1021	B	C	12B
R1023	A	C	8C
R1024	B	C	7C
R1025	A	C	7D
R1026	B	C	7D
R1027	A	C	7D
R1028	A	C	7D
R1029	A	C	7D
R1030	A	C	7D
R1031	B	C	7D
R1032	B	C	8C
R1035	B	C	8E
R1036	A	C	9E
R1037	A	C	7A
R1038	A	C	9C
R1039	A	C	9C
R1045	A	C	8D
R1046	A	C	8D
R1047	B	C	8D

REF.NO.	LOCATION		
R1048	A	C	8D
R1049	B	C	10B
R1052	B	C	10C
R1053	B	C	7C
R1054	A	C	7D
R1055	B	C	8E
R1056	B	C	8D
R1058	B	C	8D
R1059	B	C	8E
R1060	B	C	8E
R1063	A	C	7B
R1064	B	C	7C
R1065	A	C	7E
R1066	A	C	7D
R1067	A	C	7E
R1068	B	C	7D
R1069	B	C	7D
R1070	A	C	10D
R1071	B	C	11B
R1072	A	C	7D
R1073	B	C	7A
R1401	B	C	6B
R1402	B	C	6B
R1403	B	C	6D
R1404	A	C	6D
R1405	B	C	6D
R1406	A	C	6D
R1407	A	C	6D
R1408	B	C	5D
R1409	A	C	6D
R1410	A	C	5D
R1411	A	C	5D
R1412	B	C	5D
R1413	A	C	5D
R1414	B	C	6E
R1415	B	C	6E
R1416	B	C	5D
R1417	B	C	4D
R1418	B	C	4D
R1419	A	C	4D
R1420	A	C	5E
R1421	A	C	4E
R1422	A	C	4E
R1423	A	C	4D
R1424	A	C	5B
R1425	B	C	6B
R1426	A	C	3B
R1427	B	C	3C
R1428	B	C	3C
R1429	B	C	3C
R1430	B	C	3E
R1431	B	C	3D
R1432	B	C	3D
R1433	B	C	3D

REF.NO.	LOCATION		
R1434	B	C	3D
R1435	B	C	4D
R1436	B	C	5C
R1437	B	C	5D
R1438	B	C	5B
R1439	B	C	5D
R1440	B	C	5D
R1442	A	C	5D
R1443	A	C	5C
R1444	A	C	6B
R1445	A	C	5B
R1446	A	C	5B
R1447	A	C	5C
R1448	A	C	4C
R1449	A	C	5C
R1450	B	C	6C
R1451	B	C	6C
R1452	B	C	6C
R1453	B	C	5B
R1454	B	C	5B
R1455	B	C	5B
R1456	B	C	5B
R1457	B	C	5B
R1458	B	C	4B
R1459	B	C	4B
R1460	A	C	5B
R1461	A	C	6D
R1462	B	C	4D
R1463	B	C	6B
R1464	B	C	5C
R1465	A	C	6E
R1467	A	C	6E
R1468	B	C	4D
R1470	A	C	4E
R1471	A	C	4E
R1472	A	C	4E
OTHER			
LC1401	A	D	6B
LC1402	A	D	6C
RA1401	A	C	3C
RA1402	A	C	3C
RA1403	A	C	3D
RA1404	A	C	3D
RA1405	A	C	1E
RA1406	A	C	2E
RA1407	A	C	2B
RA1408	A	C	1B
TP1001	A	D	7E
VR1001	A	D	10B
VR1002	A	D	8E
VR1004	A	D	11B
VR1401	A	D	5C

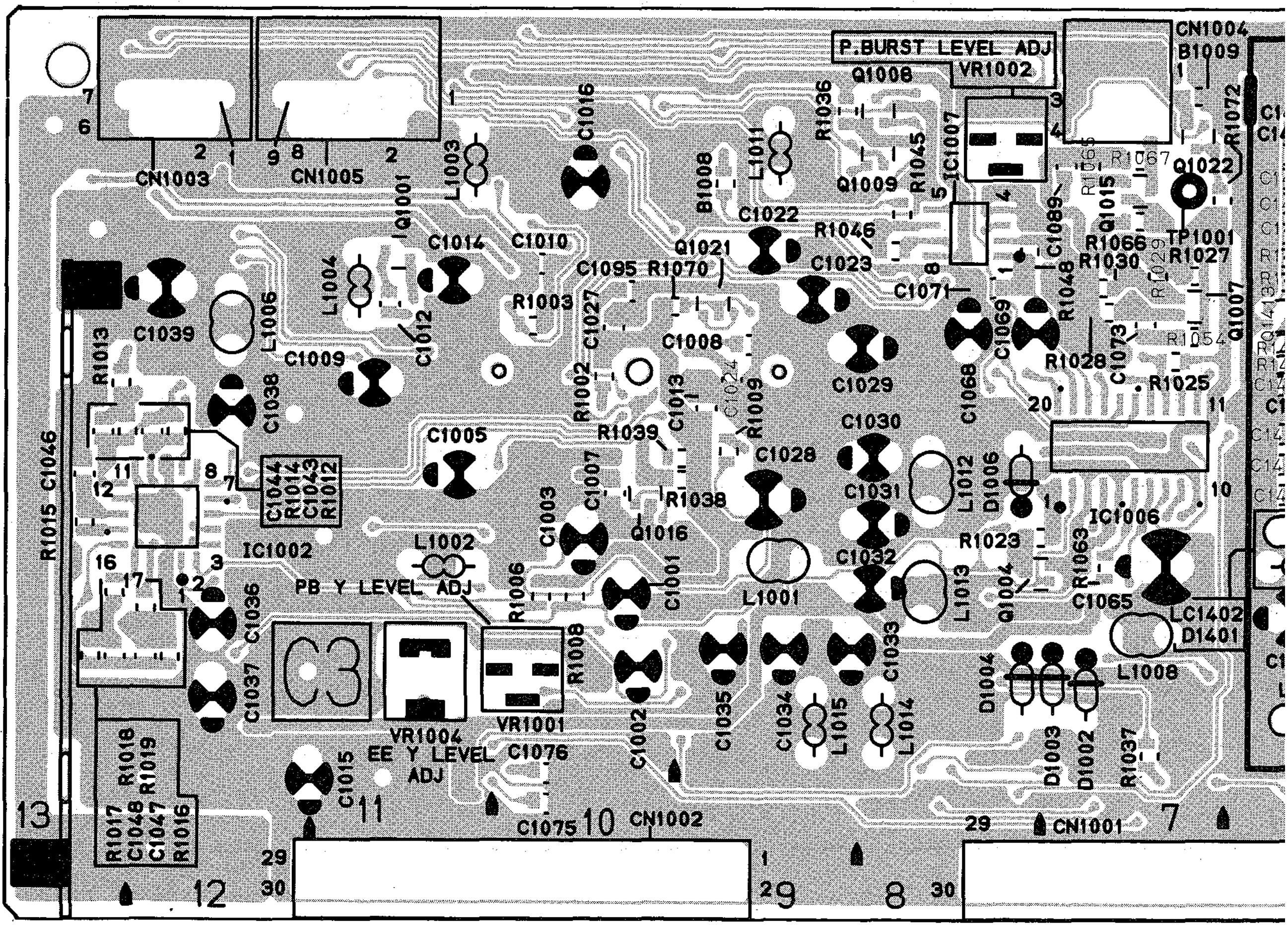
4.14 3D SVHS CIRCUIT BOARD

— FOIL SIDE (B) —

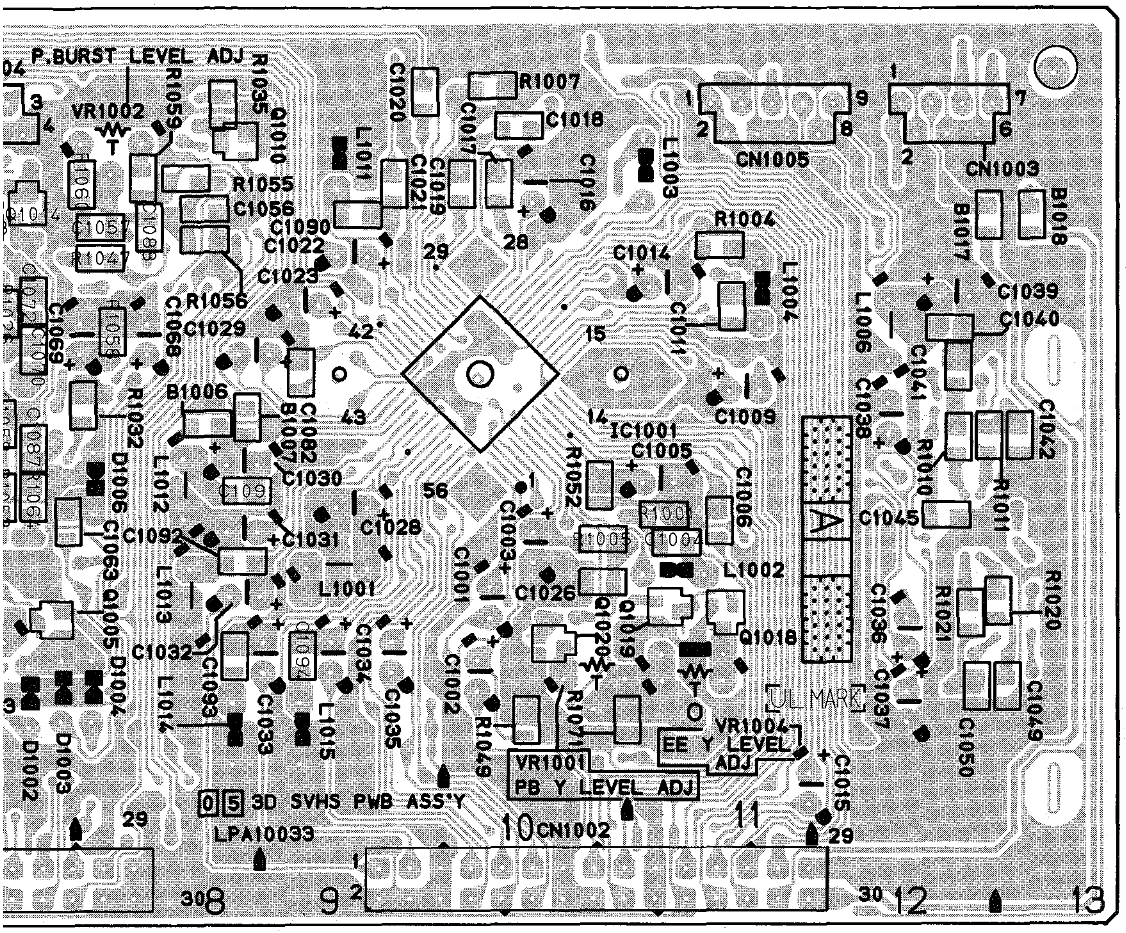


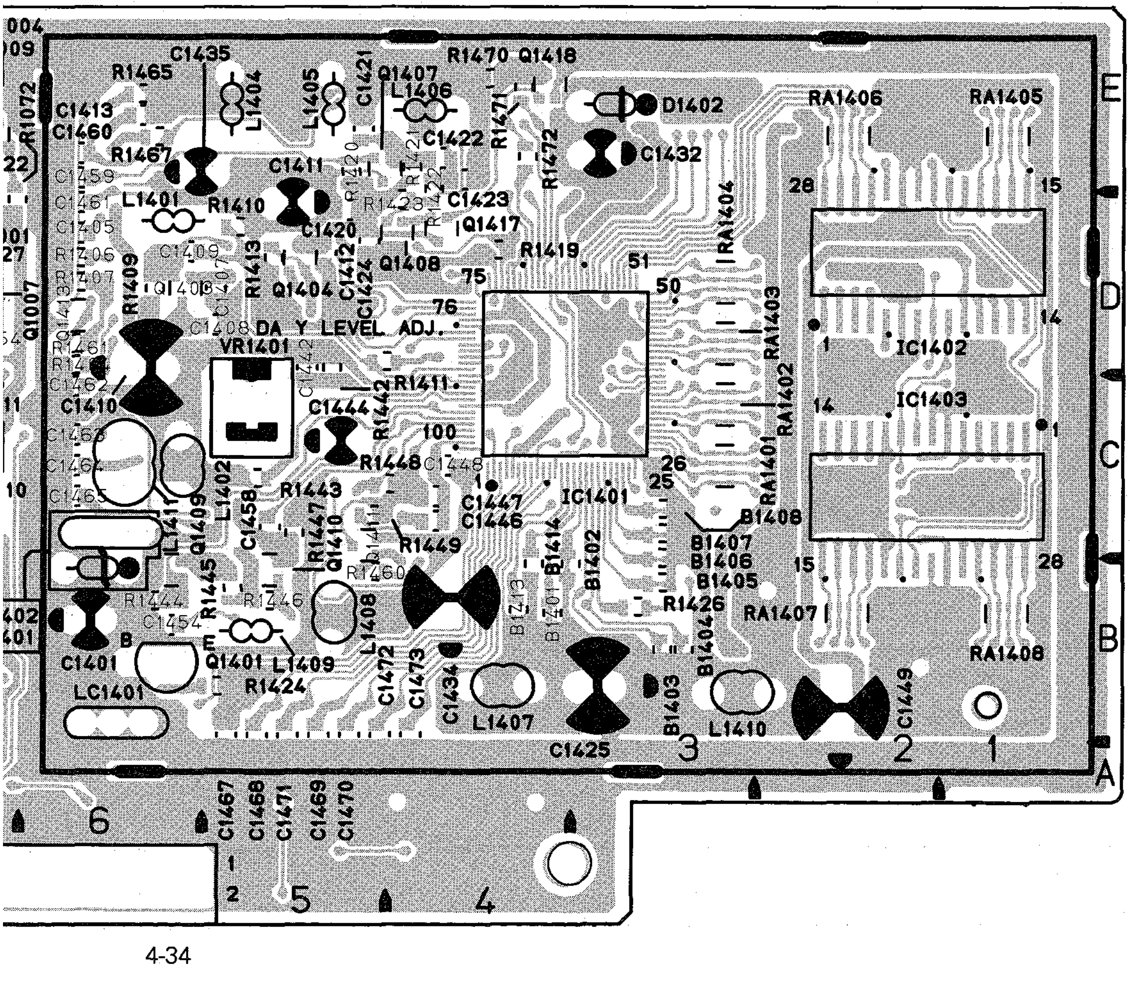
E
D
C
B
A
1
2
3
4
5
6
7
D1402
L1406
C1451
C1432
C1419
R1430
R1431
C1431
R1432
R1433
R1434
C1430
C1429
C1450
B1410
C1452
B1409
C1440
C1428
C1427
C1426
C1441
C1433
C1438
C1439
R1429
R1427
R1428
C1453
L1410
B1412
C1425
L1407
B1411
C1449
R1458
R1459
C1434
L1408
C1455
R1456
R1455
R1457
R1454
R1453
LPB10033 -002C
3D SVHS PWB
VR1401
DA Y
LEVEL ADJ.
R1440
C1444
C1443
R1464
C1457
LC1402
C1437
R1435
C1436
R1416
R1462
R1463
C1411
C1418
L1405
R1417
C1417
C1416
L1404
C1435
Q1405
C1414
R1415
Q1402
L1401
C1404
R1408
C1406
R1403
C1403
C1410
R1437
R1450
L1411
L1403
R1451
R1452
D1401
Q1401
R1425
C1459
C1401
L1409
Q1412
C1402
R1402
LC1401
C1466
R1460
CN1001
CN1004
P.BU
TP1001
R1069
R1068
Q1014
R1031
C1074
Q1006
R1026
C1070
C1069
C1066
C1088
R1024
R1058
C1087
R1064
C1064
C1065
L1008
Q1023
R1073
D1002
D1003

— COMPONENT SIDE (A) —

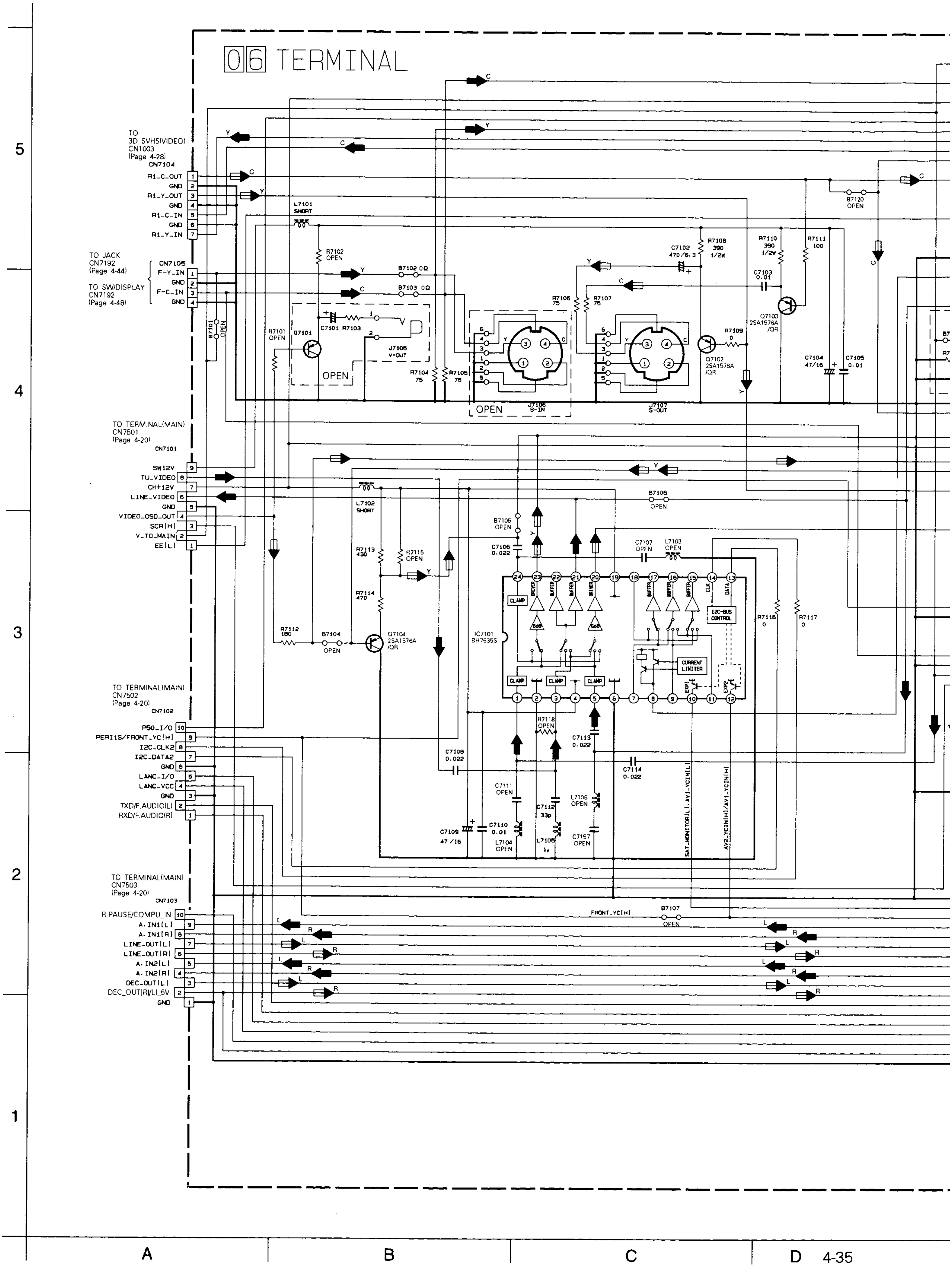


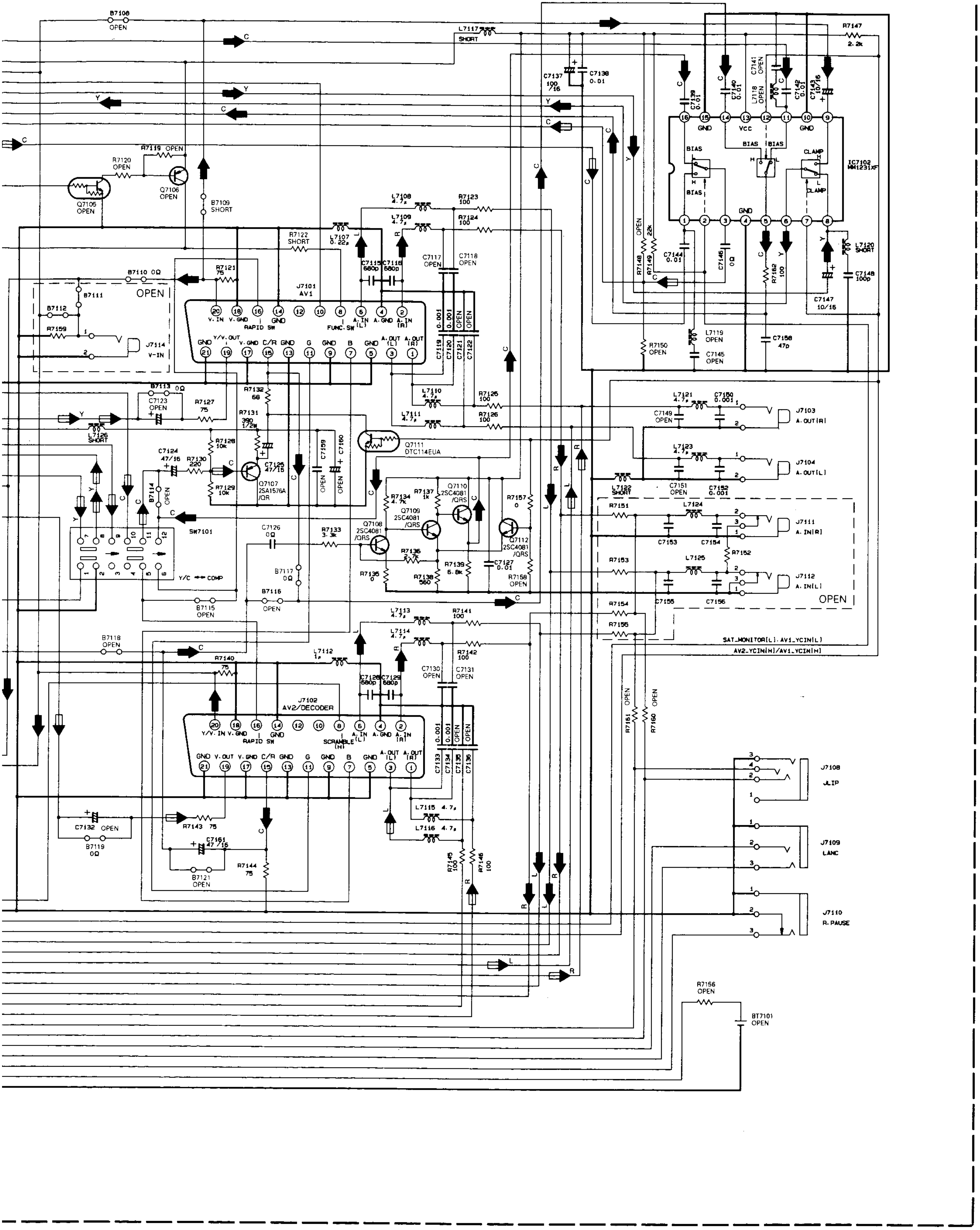
CN1003
CN1005
L1003
Q1001
C1016
B1008
L1011
R1036
Q1008
P.BURST LEVEL ADJ
VR1002
CN1004
B1009
R1072
R1045
Q1009
IC1007
C1022
R1046
Q1021
C1023
C1014
C1010
L1004
C1095
R1070
R1003
C1012
C1027
C1039
L1006
R1013
C1009
C1008
C1024
C1029
C1030
C1036
R1002
R1009
C1013
R1039
C1028
C1005
C1007
R1038
C1031
L1012
D1006
R1015
C1046
C1044
R1014
C1043
R1012
IC1002
L1002
PB Y LEVEL ADJ
C1003
Q1016
C1001
L1001
C1032
L1013
Q1004
R1023
IC1006
R1063
C1065
LC1402
D1401
L1008
C1036
C1037
C3
VR1004
EE Y LEVEL ADJ
VR1001
C1076
R1006
R1008
C1002
C1035
C1034
L1015
L1014
C1033
D1004
D1003
D1002
R1037
R1018
R1019
R1017
C1048
C1047
R1016
C1015
C1075
CN1002
CN1001
Q1022
Q1015
R1066
R1067
R1030
TP1001
R1027
R1029
C1089
R1048
C1071
C1069
R1028
C1073
R1025
R1054
Q1007
C1068
11
12
13
10
9
8
7
29
30
1
2
20


P.BURST LEVEL ADJ
VR1002
R1059
R1035
Q1010
R1055
C1056
C1090
C1022
C1023
R1056
C1029
C1068
C1069
R1032
B1006
B1007
C1082
C1030
D1006
L1012
C1092
C1031
L1013
C1063
Q1005
D1004
C1032
C1093
L1014
C1033
L1015
C1034
C1035
D1003
D1002
L1001
C1028
C1020
L1011
C1021
C1019
C1017
R1007
C1018
C1016
L1003
C1014
C1011
R1004
L1004
C1009
IC1001
C1005
R1052
C1003
C1001
C1026
Q1020
Q1019
Q1018
L1002
C1006
C1002
R1049
R1071
VR1001
PB Y LEVEL ADJ
VR1004
EE Y LEVEL ADJ
C1015
CN1002
CN1005
CN1003
B1017
B1018
C1039
C1040
L1006
C1041
C1038
C1042
R1010
R1011
C1045
C1036
R1021
R1020
C1037
C1049
C1050
UL MARK
05 3D SVHS PWB ASS'Y
LPA10033
8
9
10
11
12
13


R1465
C1435
L1404
L1405
C1421
Q1407
L1406
R1470
Q1418
R1471
R1472
D1402
C1432
C1413
C1460
R1467
C1411
R1410
C1420
C1422
C1423
Q1417
L1401
R1413
Q1408
R1419
R1409
Q1404
C1412
C1424
DA Y LEVEL ADJ.
VR1401
R1411
C1444
R1442
R1448
C1410
IC1401
C1447
C1446
R1443
L1402
C1458
Q1409
L1411
Q1410
R1447
R1449
R1445
B1414
B1402
R1426
L1408
C1472
C1473
C1434
L1407
C1425
B1403
B1404
L1410
C1449
C1401
Q1401
L1409
R1424
LC1401
RA1406
RA1405
RA1404
RA1403
RA1402
RA1401
IC1402
IC1403
B1408
B1407
B1406
B1405
RA1407
RA1408
C1467
C1468
C1471
C1469
C1470
A
B
C
D
E
1
2
3
4
5
6

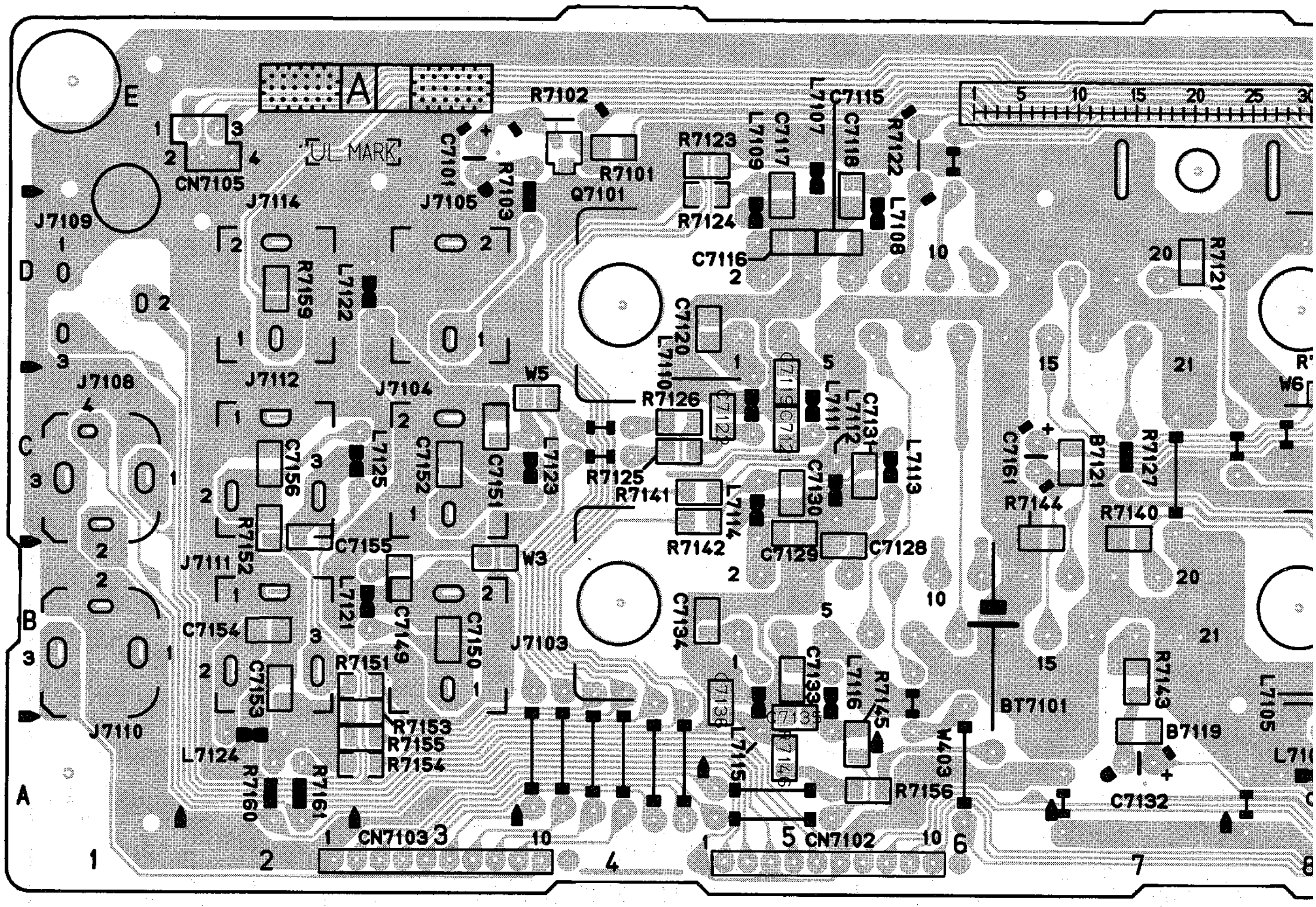
4.15 TERMINAL SCHEMATIC DIAGRAM


06 TERMINAL
5
4
3
2
1
A
B
C
D
TO 3D SVHS(VIDEO) CN1003 (Page 4-28)
CN7104
R1_C_OUT 1
GND 2
R1_Y_OUT 3
GND 4
R1_C_IN 5
GND 6
R1_Y_IN 7
TO JACK CN7192 (Page 4-44)
TO SW/DISPLAY CN7192 (Page 4-48)
CN7105
F-Y_IN 1
GND 2
F-C_IN 3
GND 4
TO TERMINAL(MAIN) CN7501 (Page 4-20)
CN7101
SW12V 9
TU_VIDEO 8
CH+12V 7
LINE_VIDEO 6
GND 5
VIDEO_OSD_OUT 4
SCR(H) 3
V_TO_MAIN 2
EE(L) 1
TO TERMINAL(MAIN) CN7502 (Page 4-20)
CN7102
P50_I/O 10
PERI1S/FRONT_YC(H) 9
I2C_CLK2 8
I2C_DATA2 7
GND 6
LANC_I/O 5
LANC_VCC 4
GND 3
TXD/F.AUDIO(L) 2
RXD/F.AUDIO(R) 1
TO TERMINAL(MAIN) CN7503 (Page 4-20)
CN7103
R.PAUSE/COMPU_IN 10
A.IN1(L) 9
A.IN1(R) 8
LINE_OUT(L) 7
LINE_OUT(R) 6
A.IN2(L) 5
A.IN2(R) 4
DEC_OUT(L) 3
DEC_OUT(R)/L1_5V 2
GND 1
L7101 SHORT
R7102 OPEN
B7102 0Ω
B7103 0Ω
B7101 OPEN
R7101 OPEN
Q7101
C7101
R7103
J7105 V-OUT
OPEN
R7104 75
R7105 75
R7106 75
R7107 75
J7106 S-IN
J7107 S-OUT
C7102 470/6.3
R7108 390 1/2W
R7110 390 1/2W
R7111 100
C7103 0.01
Q7103 2SA1576A /QR
R7109 0
Q7102 2SA1576A /QR
C7104 47/16
C7105 0.01
B7120 OPEN
L7102 SHORT
R7113 430
R7115 OPEN
R7114 470
R7112 180
B7104 OPEN
Q7104 2SA1576A /QR
B7106 OPEN
B7105 OPEN
C7106 0.022
C7107 OPEN
L7103 OPEN
IC7101 BH7635S
CLAMP
BUFFER
DRIVER
6dB
CLK
DATA
I2C-BUS CONTROL
CURRENT LIMITER
EXP1
EXP2
R7116 0
R7117 0
R7118 OPEN
C7113 0.022
C7114 0.022
C7108 0.022
C7111 OPEN
C7112 33p
L7106 OPEN
C7109 47/16
C7110 0.01
L7104 OPEN
L7105 1μ
C7157 OPEN
SAT_MONITOR(L)/AV1_YCIN(L)
AV2_YCIN(H)/AV1_YCIN(H)
FRONT_YC(H)
B7107 OPEN
Y
C
L
R



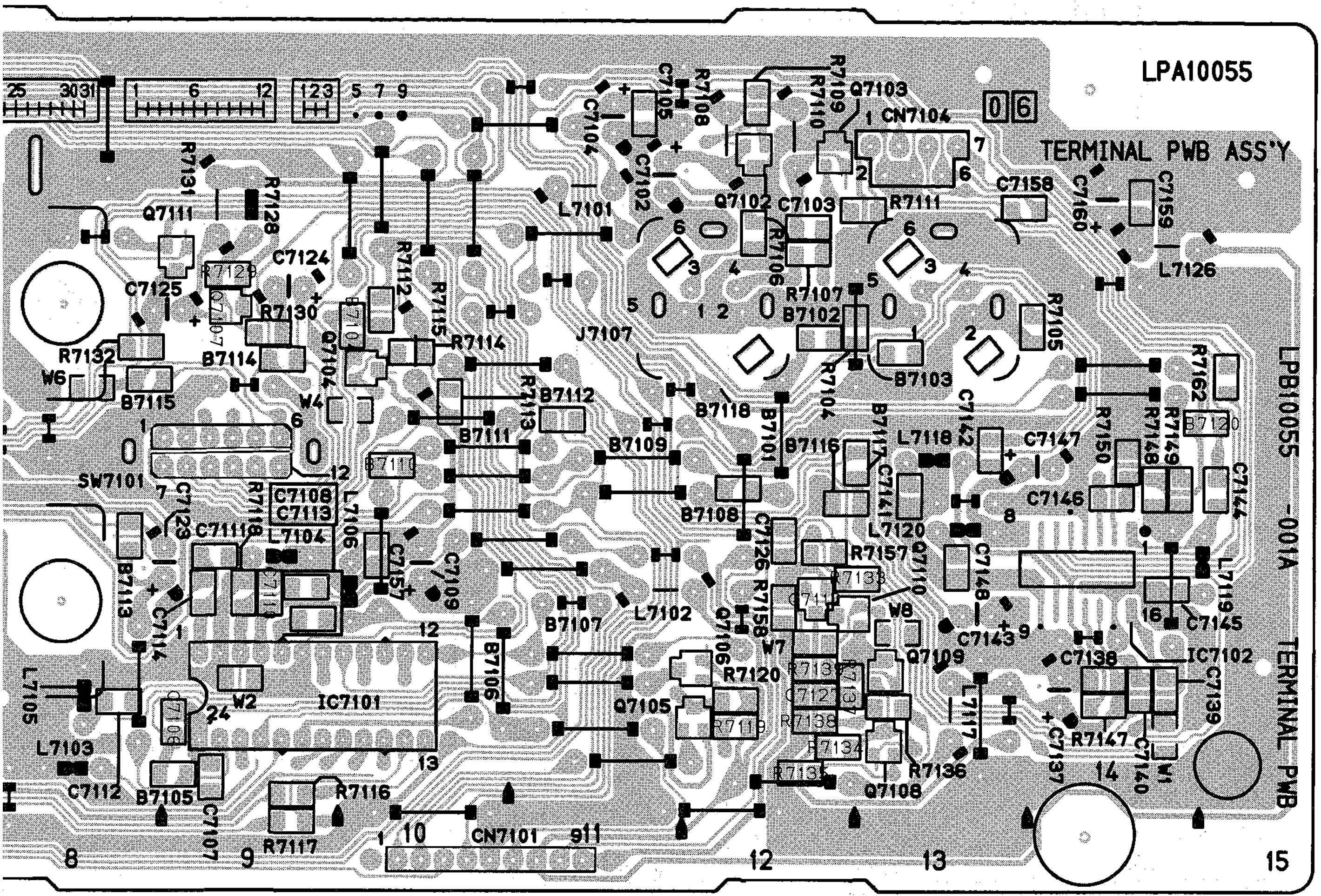
B7108 OPEN
L7117 SHORT
R7147 2.2k
C7137 100/16
C7138 0.01
C7139 0.01
C7140 0.01
C7141 OPEN
L718 OPEN
C7142 0.01
C7143 10/16
GND
VCC
GND
BIAS
BIAS
BIAS
CLAMP
CLAMP
IC7102 MM1231XF
GND
R7148 OPEN
R7149 22k
C7144 0.01
C7146 0Ω
R7162 100
L7120 SHORT
C7148 100p
C7147 10/16
L7119 OPEN
C7145 OPEN
R7150 OPEN
C7158 47p
R7119 OPEN
R7120 OPEN
Q7106 OPEN
Q7105 OPEN
B7109 SHORT
L7108 4.7µ
R7123 100
L7109 4.7µ
R7124 100
R7122 SHORT
L7107 0.22µ
C7115 680p
C7116 680p
C7117 OPEN
C7118 OPEN
B7110 0Ω
R7121 75
B7111
OPEN
B7112
R7159
J7114 V-IN
J7101 AV1
V.IN
V.GND
RAPID SW
GND
FUNC.SW
A.IN (L)
A.GND
A.IN (R)
GND
Y/V.OUT
V.GND
C/R
GND
G
GND
B
GND
A.OUT (L)
A.OUT (R)
C7119 0.001
C7120 0.001
C7121 OPEN
C7122 OPEN
B7113 0Ω
C7123 OPEN
R7127 75
L7126 SHORT
R7132 68
R7131 390 1/2W
R7128 10k
C7124 47/16
R7130 220
C7125 47/16
Q7107 2SA1576A /QR
R7129 10k
C7159 OPEN
C7160 OPEN
L7110 4.7µ
R7125 100
L7111 4.7µ
R7126 100
Q7111 DTC114EUA
J7103 A.OUT(R)
L7121 4.7µ
C7150 0.001
C7149 OPEN
J7104 A.OUT(L)
L7123 4.7µ
L7122 SHORT
C7151 OPEN
C7152 0.001
B7114 OPEN
SW7101
Y/C ↔ COMP
C7126 0Ω
R7133 3.3k
Q7108 2SC4081 /QRS
R7134 4.7k
R7137 1k
Q7109 2SC4081 /QRS
Q7110 2SC4081 /QRS
R7157 0
Q7112 2SC4081 /QRS
R7136 2.7k
R7135 0
R7138 560
R7139 6.8k
C7127 0.01
R7158 OPEN
B7117 0Ω
B7115 OPEN
B7116 OPEN
R7151
L7124
C7153
C7154
R7152
J7111 A.IN(R)
R7153
L7125
C7155
C7156
J7112 A.IN(L)
OPEN
R7154
R7155
SAT_MONITOR(L)/AV1_YCIN(L)
AV2_YCIN(H)/AV1_YCIN(H)
B7118 OPEN
R7140 75
L7112 1µ
L7113 4.7µ
R7141 100
L7114 4.7µ
R7142 100
C7128 680p
C7129 680p
C7130 OPEN
C7131 OPEN
J7102 AV2/DECODER
Y/V.IN
V.GND
RAPID SW
GND
SCRAMBLE (H)
A.IN (L)
A.GND
A.IN (R)
GND
V.OUT
V.GND
C/R
GND
G
GND
B
GND
A.OUT (L)
A.OUT (R)
C7133 0.001
C7134 0.001
C7135 OPEN
C7136 OPEN
R7161 OPEN
R7160 OPEN
J7108 JLIP
J7109 LANC
J7110 R.PAUSE
C7132 OPEN
B7119 0Ω
R7143 75
C7161 47/16
B7121 OPEN
R7144 75
L7115 4.7µ
L7116 4.7µ
R7145 100
R7146 100
R7156 OPEN
BT7101 OPEN
C
Y
L
R

4.16 TERMINAL CIRCUIT BOARD

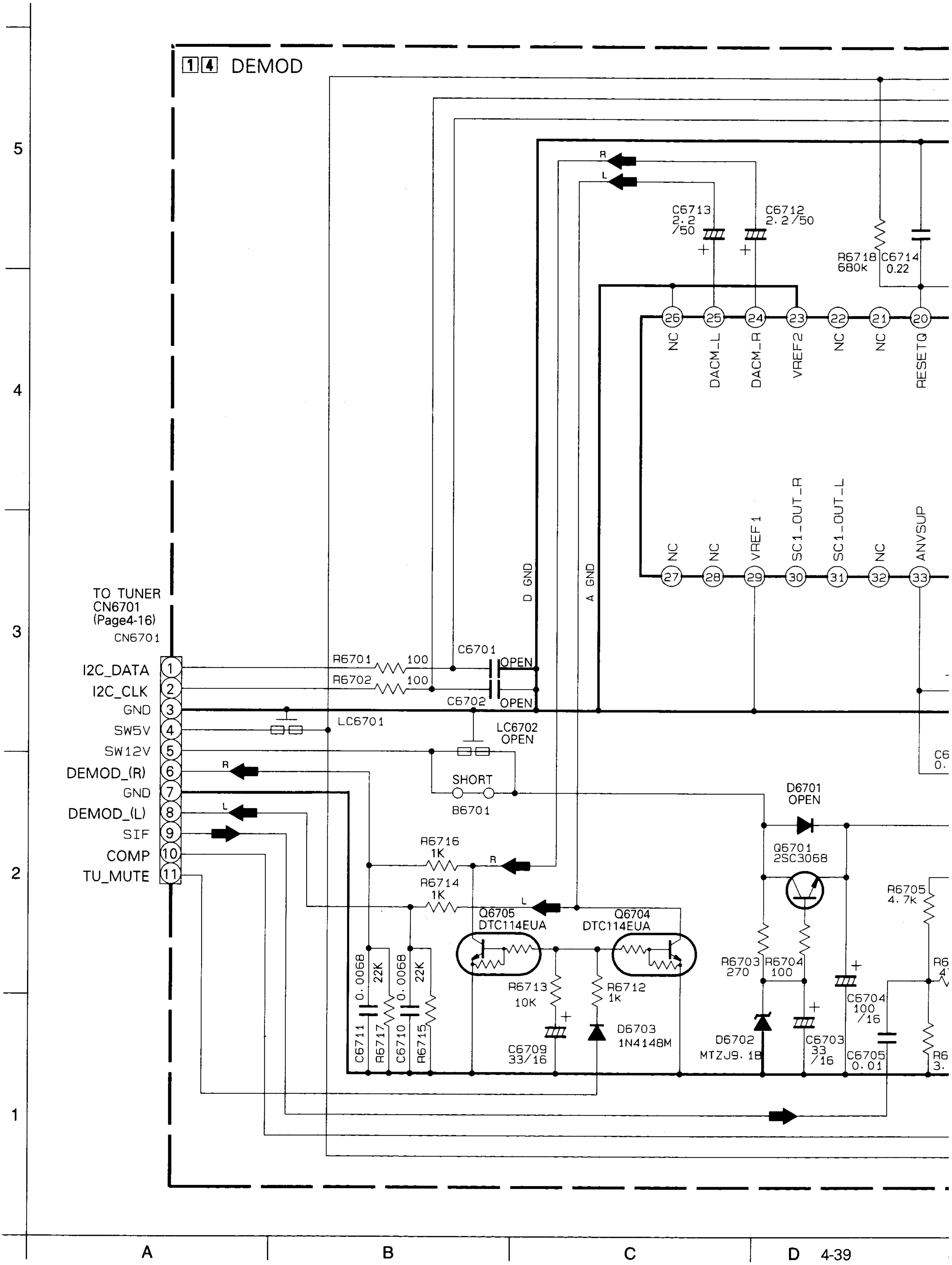

E
D
C
B
A
1
2
3
4
5
6
7
A
UL MARK
CN7105
J7109
J7114
J7105
J7108
J7112
J7104
J7111
J7110
J7103
R7102
C7101
R7103
Q7101
R7101
R7123
R7124
C7116
L7109
C7117
L7107
C7115
C7118
R7122
L7108
R7159
L7122
C7120
L7110
R7126
W5
C7156
R7152
L7125
C7152
C7151
L7123
R7125
R7141
R7142
C7155
W3
C7154
C7153
L7124
R7160
R7161
R7151
L7121
C7149
C7150
R7153
R7155
R7154
CN7103
CN7102
L7111
L7112
C7131
L7113
C7130
L7114
C7129
C7128
C7134
C7133
L7116
R7145
L7115
W403
R7156
BT7101
C7161
B7121
R7127
R7144
R7140
R7121
W6
R7143
L7105
B7119
C7132

COMPONENT PARTS LOCATION GUIDE <TERMINAL>

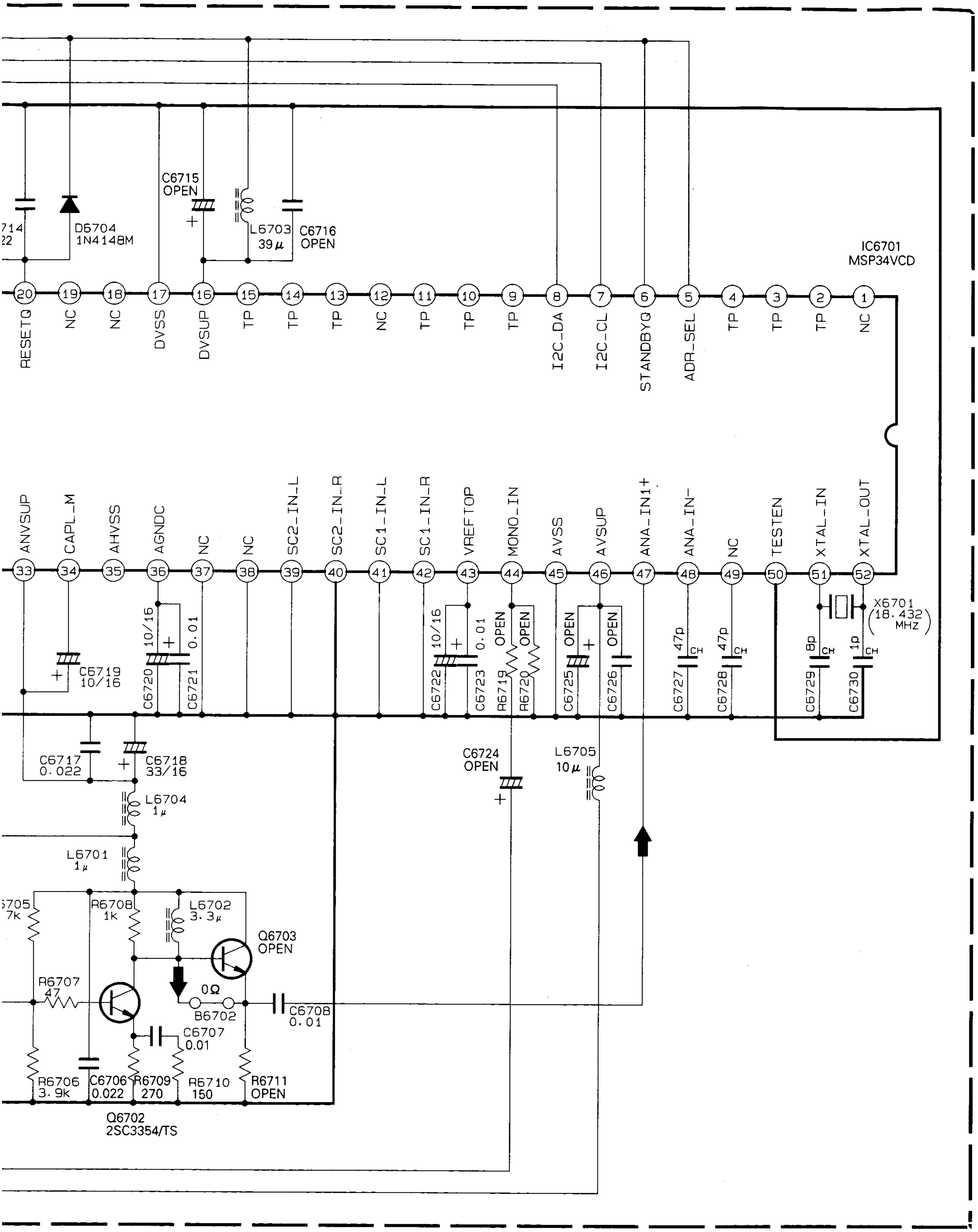
REF.NO.	LOCATION		
CAPACITOR			
C7101	A	D	3E
C7102	A	D	11E
C7103	B	C	12D
C7104	A	D	11E
C7105	B	C	11E
C7106	B	C	9A
C7107	B	C	9A
C7108	B	C	9B
C7109	A	D	10B
C7110	B	C	9B
C7111	B	C	9B
C7112	B	C	8B
C7113	B	C	9B
C7114	B	C	9B
C7115	B	C	5D
C7116	B	C	5D
C7117	B	C	5E
C7118	B	C	5E
C7119	B	C	5C
C7120	B	C	5D
C7121	B	C	5C
C7122	B	C	5C
C7123	A	D	9B
C7124	A	D	9D
C7125	A	D	9D
C7126	B	C	12C
C7127	B	C	12B
C7128	B	C	5C
C7129	B	C	5C
C7130	B	C	5C
C7131	B	C	5C
C7132	A	D	7A
C7133	B	C	5B
C7134	B	C	5B
C7135	B	C	5B
C7136	B	C	5B
C7137	A	D	14B
C7138	B	C	14B
C7139	B	C	14B
C7140	B	C	14B
C7141	B	C	13C
C7142	B	C	13C
C7143	A	D	13B
C7144	B	C	15C
C7145	B	C	14B
C7146	B	C	14C
C7147	A	D	13C
C7148	B	C	13B
C7149	B	C	3B
C7150	B	C	3B
C7151	B	C	3C
C7152	B	C	3C
C7153	B	C	2B
C7154	B	C	2B
C7155	B	C	2C
C7156	B	C	2C
C7157	B	C	10B
C7158	B	C	13D
C7159	B	C	14D
C7160	A	D	14D
C7161	A	D	6C
CONNECTOR			
CN7101	A	D	10A
CN7102	A	D	5A
CN7103	A	D	2A
CN7104	A	D	13E
CN7105	A	D	2E
IC			
IC7101	A	D	9B
IC7102	B	C	14B
JACK			
J7101	A	D	6D
J7102	A	D	6B
J7103	A	D	3B
J7104	A	D	3C
J7105	A	D	3D
J7106	A	D	13D
J7107	A	D	12D
J7108	A	D	1C
J7109	A	D	1D
J7110	A	D	1B
J7111	A	D	2B
J7112	A	D	2C
J7114	A	D	2D
COIL			
L7101	A	D	11E
L7102	A	D	12B
L7103	A	D	8A
L7104	A	D	9B
L7105	A	D	8A
L7106	A	D	10B
L7107	A	D	5E
L7108	A	D	5D
L7109	A	D	5D
L7110	A	D	5C
L7111	A	D	5C
L7112	A	D	5C
L7113	A	D	6C
L7114	A	D	5C
L7115	A	D	5B
L7116	A	D	5B
L7117	A	D	13A
L7118	A	D	13C
L7119	A	D	15B
L7120	A	D	13C
L7121	A	D	3B
L7122	A	D	3D
L7123	A	D	4C
L7124	A	D	2A
L7125	A	D	3C
L7126	A	D	14D
TRANSISTOR			
Q7101	B	C	4E
Q7102	B	C	12E
Q7103	B	C	12E
Q7104	B	C	10D
Q7105	B	C	12B
Q7106	B	C	12B
Q7107	B	C	9D
Q7108	B	C	13A
Q7109	B	C	13B
Q7110	B	C	12B
Q7111	B	C	9D
Q7112	B	C	12B
RESISTOR			
R7101	B	C	4E
R7102	A	D	3E
R7103	A	D	3E
R7104	B	C	12D
R7105	B	C	14D
R7106	B	C	12D
R7107	B	C	12D
R7108	A	D	12E
R7109	B	C	12E
R7110	A	D	12E
R7111	B	C	13D
R7112	B	C	10D
R7113	B	C	10C
R7114	B	C	10D
R7115	A	D	10C
R7116	B	C	9A
R7117	B	C	9A
R7118	B	C	9B
R7119	B	C	12A
R7120	B	C	12B
R7121	B	C	7D
R7122	A	D	6E
R7123	B	C	5E
R7124	B	C	5E
R7125	B	C	4C
R7126	B	C	4C
R7127	A	D	7C
R7128	A	D	9E
R7129	B	C	9D
R7130	B	C	9D
R7131	A	D	9D
R7132	B	C	8D
R7133	B	C	13B
R7134	B	C	12A
R7135	B	C	12A
R7136	B	C	13B
R7137	B	C	12B
R7138	B	C	12A
R7139	B	C	12B
R7140	B	C	7C
R7141	B	C	4C
R7142	B	C	4C
R7143	B	C	7B
R7144	B	C	6C
R7145	B	C	5A
R7146	B	C	5A
R7147	B	C	14B
R7148	B	C	14C
R7149	B	C	14C
R7150	B	C	14C
R7151	B	C	3B
R7152	B	C	2C
R7153	B	C	3B
R7154	B	C	3A
R7155	B	C	3A
R7156	B	C	5A
R7157	B	C	12B
R7158	B	C	12B
R7159	B	C	2D
R7160	A	D	2A
R7161	A	D	2A
R7162	B	C	15C
OTHER			
BT7101	A	D	6B
SW7101	A	D	9C


LPA10055
TERMINAL PWB ASS'Y
LPB10055 -001A TERMINAL PWB
CN7104
CN7101
IC7101
IC7102
SW7101
J7107
Q7101
Q7102
Q7103
Q7104
Q7105
Q7106
Q7107
Q7108
Q7109
Q7110
Q7111
C7102
C7103
C7104
C7105
C7106
C7107
C7108
C7109
C7111
C7112
C7113
C7114
C7123
C7124
C7125
C7126
C7127
C7137
C7138
C7139
C7140
C7141
C7142
C7143
C7144
C7145
C7146
C7147
C7148
C7157
C7158
C7159
C7160
R7104
R7105
R7106
R7107
R7108
R7109
R7110
R7111
R7112
R7113
R7114
R7115
R7116
R7117
R7118
R7119
R7120
R7128
R7129
R7130
R7131
R7132
R7133
R7134
R7135
R7136
R7137
R7138
R7139
R7147
R7148
R7149
R7150
R7157
R7158
R7162
L7101
L7102
L7103
L7104
L7105
L7106
L7117
L7118
L7119
L7120
L7126
B7101
B7102
B7103
B7105
B7106
B7107
B7108
B7109
B7110
B7111
B7112
B7113
B7114
B7115
B7116
B7117
B7118
B7120
W1
W2
W4
W6
W7
W8
06
8
9
10
11
12
13
14
15

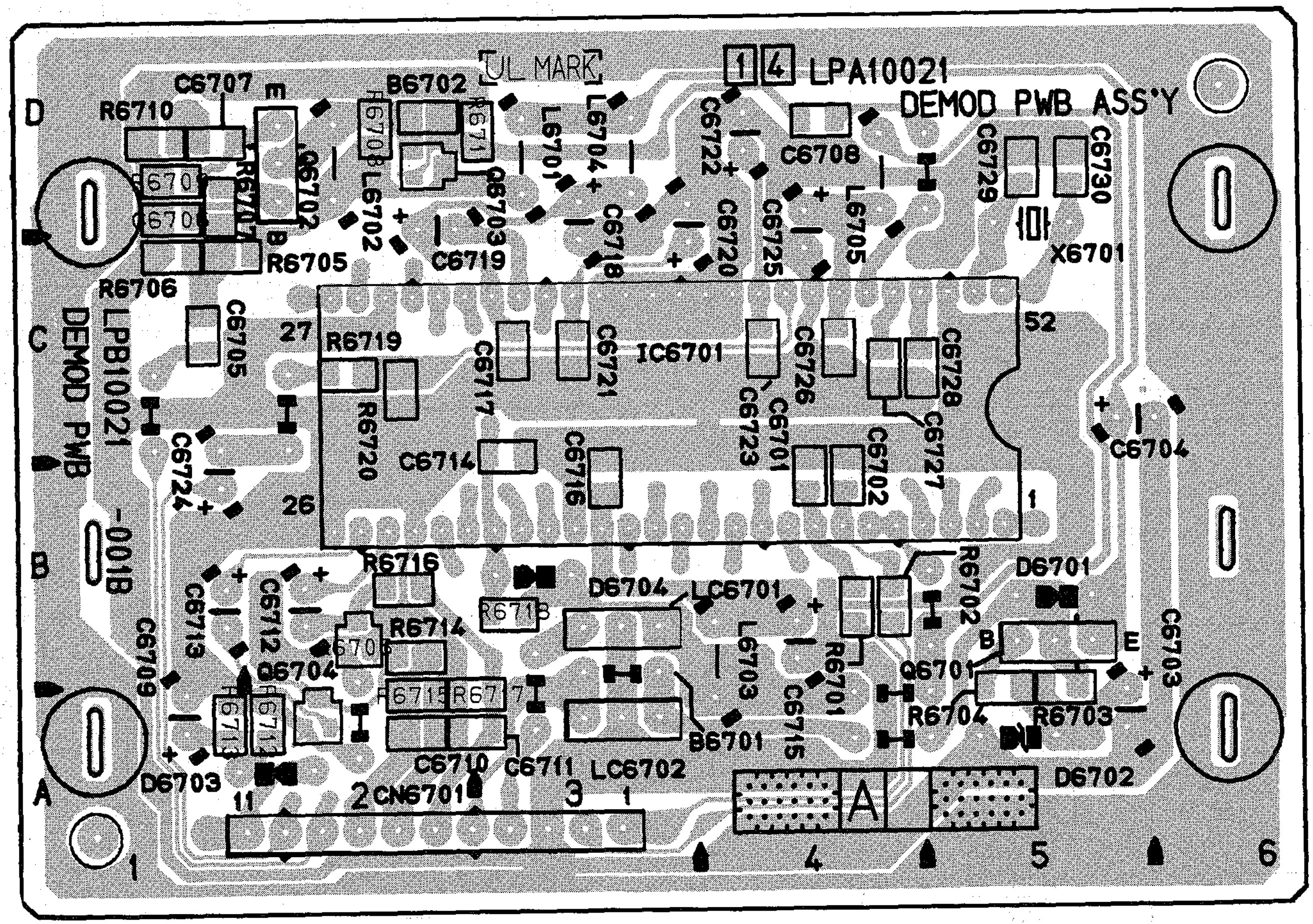
4.17 DEMODULATOR SCHEMATIC DIAGRAM



14 DEMOD
TO TUNER
CN6701
(Page4-16)
CN6701
I2C_DATA
I2C_CLK
GND
SW5V
SW12V
DEMOD_(R)
GND
DEMOD_(L)
SIF
COMP
TU_MUTE
R6701 100
R6702 100
C6701 OPEN
C6702 OPEN
LC6701
LC6702 OPEN
SHORT
B6701
D GND
A GND
R
L
C6713 2.2 /50
C6712 2.2/50
R6718 680k
C6714 0.22
NC
DACM_L
DACM_R
VREF2
NC
NC
RESETQ
NC
NC
VREF1
SC1_OUT_R
SC1_OUT_L
NC
ANVSUP
R6716 1K
R6714 1K
Q6705 DTC114EUA
Q6704 DTC114EUA
C6711 0.0068
R6717 22K
C6710 0.0068
R6715 22K
R6713 10K
C6709 33/16
R6712 1K
D6703 1N4148M
D6701 OPEN
Q6701 2SC3068
R6703 270
R6704 100
D6702 MTZJ9. 1B
C6703 33 /16
C6704 100 /16
C6705 0.01
R6705 4.7K
A
B
C
D
1
2
3
4
5


C6715
OPEN
714
22
D6704
1N4148M
L6703
39μ
C6716
OPEN
IC6701
MSP34VCD
20 RESETQ
19 NC
18 NC
17 DVSS
16 DVSUP
15 TP
14 TP
13 TP
12 NC
11 TP
10 TP
9 TP
8 I2C_DA
7 I2C_CL
6 STANDBYQ
5 ADR_SEL
4 TP
3 TP
2 TP
1 NC
33 ANVSUP
34 CAPL_M
35 AHVSS
36 AGNDC
37 NC
38 NC
39 SC2_IN_L
40 SC2_IN_R
41 SC1_IN_L
42 SC1_IN_R
43 VREFTOP
44 MONO_IN
45 AVSS
46 AVSUP
47 ANA_IN1+
48 ANA_IN-
49 NC
50 TESTEN
51 XTAL_IN
52 XTAL_OUT
C6719
10/16
10/16
C6720
0.01
C6721
10/16
C6722
0.01
C6723
OPEN
R6719
OPEN
R6720
OPEN
C6725
OPEN
C6726
47p CH
C6727
47p CH
C6728
8p CH
C6729
1p CH
C6730
X6701
(18.432 MHz)
C6717
0.022
C6718
33/16
L6704
1μ
L6701
1μ
C6724
OPEN
L6705
10μ
6705
7K
R6708
1k
L6702
3.3μ
Q6703
OPEN
R6707
47
0Ω
B6702
C6708
0.01
C6707
0.01
R6706
3.9k
C6706
0.022
R6709
270
R6710
150
R6711
OPEN
Q6702
2SC3354/TS

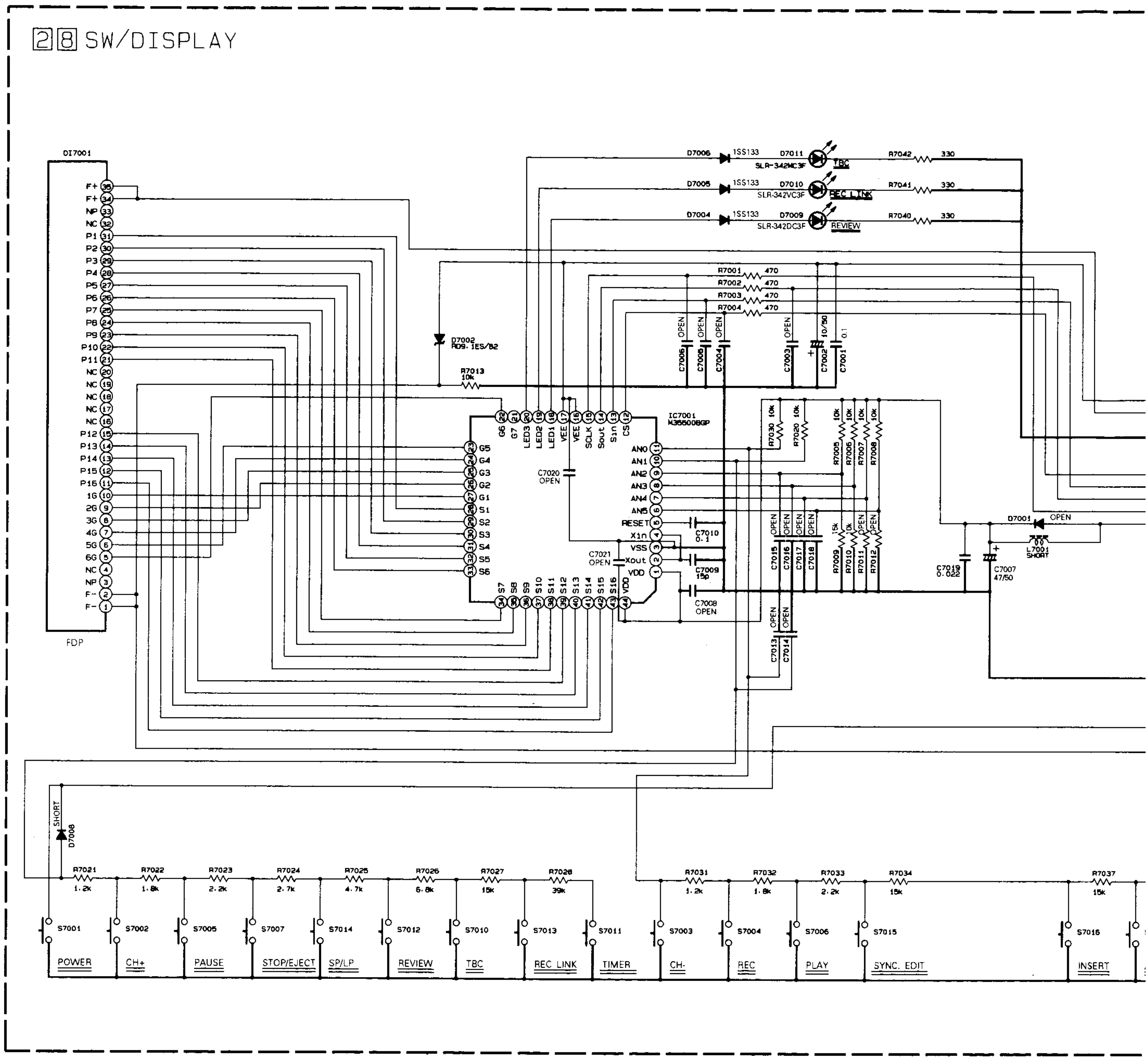
4.18 DEMODULATOR CIRCUIT BOARD


UL MARK
1 4 LPA10021
DEMOD PWB ASS'Y
LPB10021
DEMOD PWB
-001B
D
C
B
A
1
2
3
4
5
6
R6710
C6707
B6702
L6701
L6704
C6722
C6708
C6729
C6730
Q6702
L6702
Q6703
C6718
C6720
C6725
L6705
X6701
R6705
R6706
C6719
R6707
R6708
R6711
C6705
R6719
R6720
C6724
C6717
C6721
IC6701
C6723
C6701
C6726
C6728
C6727
C6702
C6714
C6716
C6704
27
26
52
1
R6716
R6718
R6714
D6704
LC6701
R6702
D6701
C6713
C6712
C6709
Q6704
R6715
R6717
L6703
R6701
Q6701
C6703
B
E
R6704
R6703
C6715
B6701
C6710
C6711
LC6702
CN6701
D6703
D6702
A
11
1

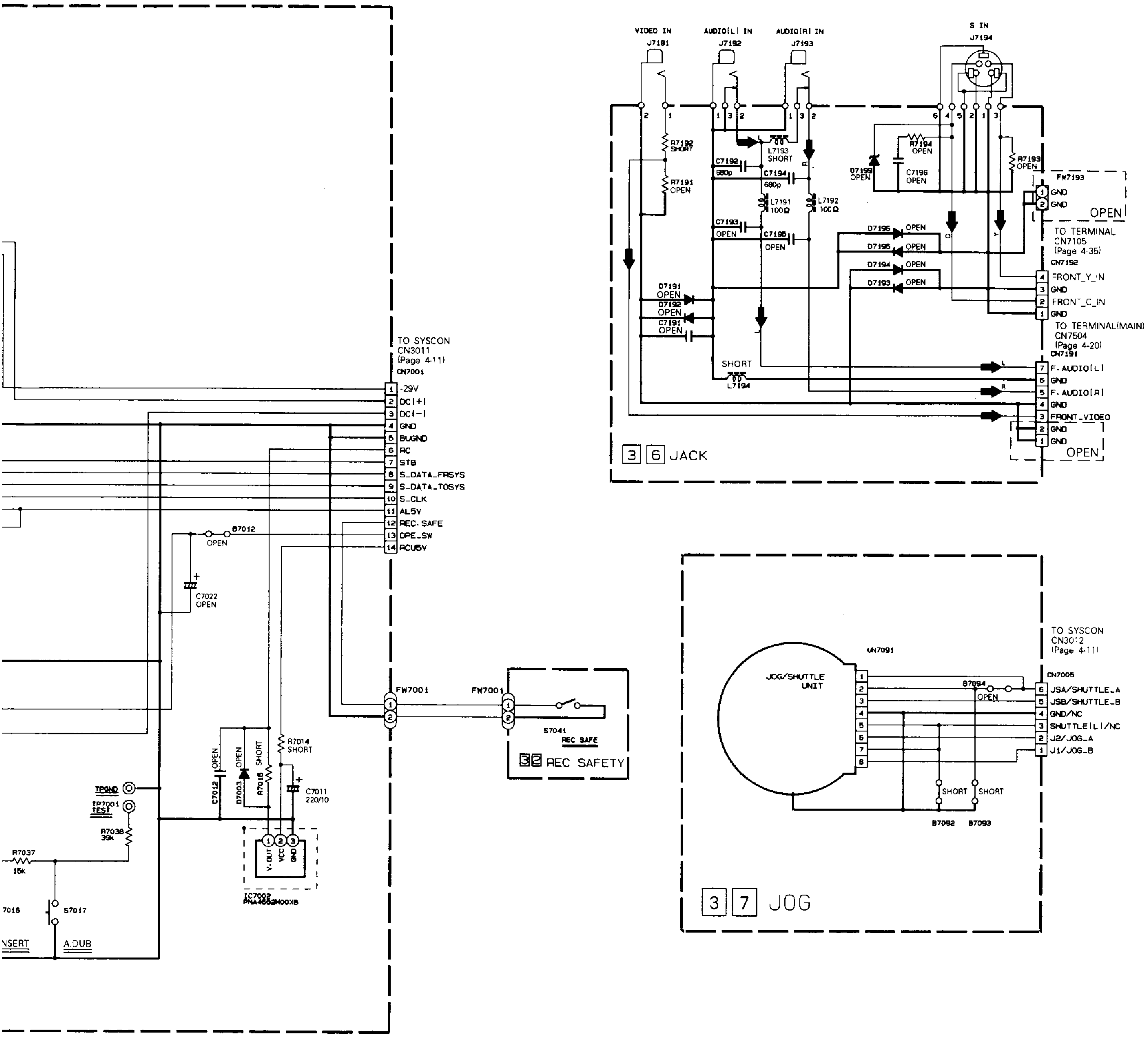
COMPONENT PARTS LOCATION GUIDE <DEMODULATOR>

REF.NO.	LOCATION		
CAPACITOR			
C6701	B	C	4B
C6702	B	C	4B
C6703	A	D	5A
C6704	A	D	5C
C6705	B	C	1C
C6706	B	C	1D
C6707	B	C	1D
C6708	B	C	4D
C6709	A	D	1A
C6710	B	C	2A
C6711	B	C	3A
C6712	A	D	2B
C6713	A	D	1B
C6714	B	C	3C
C6715	A	D	4B
C6716	B	C	3B
C6717	B	C	3C
C6718	A	D	3D
C6719	A	D	2D
C6720	A	D	4C
C6721	B	C	3C
C6722	A	D	4D
C6723	B	C	4C
C6724	A	D	1B
C6725	A	D	4D
C6726	B	C	4C
C6727	B	C	4C
C6728	B	C	5C
C6729	B	C	5D
C6730	B	C	5D
CONNECTOR			
CN6701	A	D	3A
DIODE			
D6701	A	D	5B
D6702	A	D	5A
D6703	A	D	2A
D6704	A	D	3B
IC			
IC6701	A	D	5B
COIL			
L6701	A	D	3D
L6702	A	D	2D
L6703	A	D	4A
L6704	A	D	3D
L6705	A	D	4D
TRANSISTOR			
Q6701	A	D	5B
Q6702	A	D	2D
Q6703	B	C	2D
Q6704	B	C	2A
Q6705	B	C	2B
RESISTOR			
R6701	B	C	4B
R6702	B	C	4B
R6703	B	C	5A
R6704	B	C	5A
R6705	B	C	2C
R6706	B	C	1C
R6707	B	C	1D
R6708	B	C	2D
R6709	B	C	1D
R6710	B	C	1D
R6711	B	C	3D
R6712	B	C	2A
R6713	B	C	2A
R6714	B	C	2B
R6715	B	C	2A
R6716	B	C	2B
R6717	B	C	3A
R6718	B	C	3B
R6719	B	C	2C
R6720	B	C	2C
OTHER			
LC6701	A	D	3B
LC6702	A	D	3A

4.19 SWITCH/DISPLAY, REC SAFETY, JACK AND JOG SCHEMATIC DIAGRAMS [HR-S8600EU]

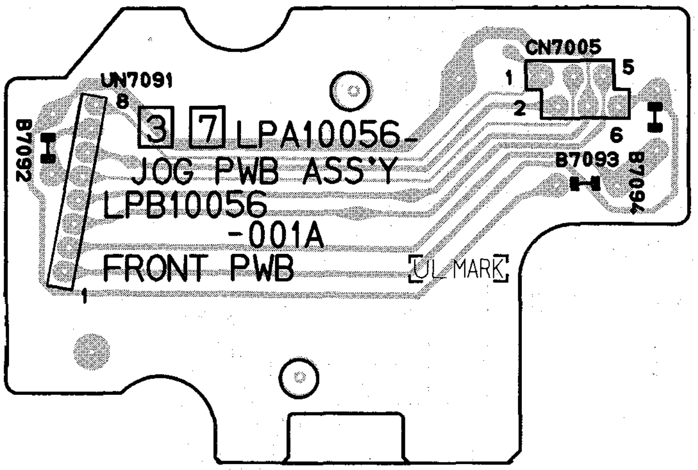


28 SW/DISPLAY
DI7001
FDP
F+ F+ NP NC P1 P2 P3 P4 P5 P6 P7 P8 P9 P10 P11 NC NC NC NC NC P12 P13 P14 P15 P16 1G 2G 3G 4G 5G 6G NC NP F- F-
IC7001
M35500BGP
G6 G7 LED3 LED2 LED1 VEE VEE SCLK Sout Sin CS
G5 G4 G3 G2 G1 S1 S2 S3 S4 S5 S6
S7 S8 S9 S10 S11 S12 S13 S14 S15 S16 VDD
AN0 AN1 AN2 AN3 AN4 AN5 RESET Xin VSS Xout VDD
D7006 1SS133 D7011 SLR-342MC3F TBC
D7005 1SS133 D7010 SLR-342VC3F REC LINK
D7004 1SS133 D7009 SLR-342DC3F REVIEW
R7042 330
R7041 330
R7040 330
R7001 470
R7002 470
R7003 470
R7004 470
C7006 OPEN
C7005 OPEN
C7004 OPEN
C7003 OPEN
C7002 10/50
C7001 0.1
D7002 RD9.1ES/B2
R7013 10k
C7020 OPEN
C7021 OPEN
C7010 0.1
C7009 15p
C7008 OPEN
R7030 10k
R7020 10k
R7005 10k
R7006 10k
R7007 10k
R7008 10k
C7015 OPEN
C7016 OPEN
C7017 OPEN
C7018 OPEN
R7009 15k
R7010 10k
R7011 OPEN
R7012 OPEN
C7013 OPEN
C7014 OPEN
D7001 OPEN
L7001 SHORT
C7019 0.022
C7007 47/50
D7008 SHORT
R7021 1.2k
R7022 1.8k
R7023 2.2k
R7024 2.7k
R7025 4.7k
R7026 6.8k
R7027 15k
R7028 39k
R7031 1.2k
R7032 1.8k
R7033 2.2k
R7034 15k
R7037 15k
S7001 POWER
S7002 CH+
S7005 PAUSE
S7007 STOP/EJECT
S7014 SP/LP
S7012 REVIEW
S7010 TBC
S7013 REC LINK
S7011 TIMER
S7003 CH-
S7004 REC
S7006 PLAY
S7015 SYNC. EDIT
S7016 INSERT

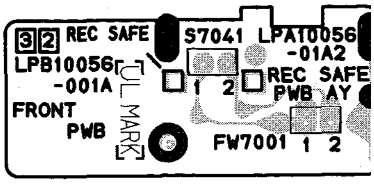

VIDEO IN
J7191
AUDIO(L) IN
J7192
AUDIO(R) IN
J7193
S IN
J7194
R7192
SHORT
R7191
OPEN
L7193
SHORT
C7192
680p
C7194
680p
L7191
100Ω
L7192
100Ω
C7193
OPEN
C7195
OPEN
R7194
OPEN
C7196
OPEN
D7199
OPEN
R7193
OPEN
FW7193
GND
GND
OPEN
TO TERMINAL
CN7105
(Page 4-35)
CN7192
FRONT_Y_IN
GND
FRONT_C_IN
GND
D7196
OPEN
D7195
OPEN
D7194
OPEN
D7193
OPEN
D7191
OPEN
D7192
OPEN
C7191
OPEN
SHORT
L7194
TO TERMINAL(MAIN)
CN7504
(Page 4-20)
CN7191
F.AUDIO(L)
GND
F.AUDIO(R)
GND
FRONT_VIDEO
GND
GND
OPEN
36 JACK
TO SYSCON
CN3011
(Page 4-11)
CN7001
-29V
DC(+)
DC(-)
GND
BUGND
RC
STB
S_DATA_FRSYS
S_DATA_TOSYS
S_CLK
AL5V
REC. SAFE
OPE_SW
RCU5V
B7012
OPEN
C7022
OPEN
FW7001
FW7001
S7041
REC SAFE
32 REC SAFETY
C7012
OPEN
D7003
OPEN
R7015
SHORT
R7014
SHORT
C7011
220/10
V-OUT
VCC
GND
IC7002
PNA4552M00XB
TPGND
TP7001
TEST
R7038
39k
R7037
15k
7016
S7017
NSERT
A.DUB
UN7091
JOG/SHUTTLE
UNIT
TO SYSCON
CN3012
(Page 4-11)
CN7005
B7094
OPEN
JSA/SHUTTLE_A
JSB/SHUTTLE_B
GND/NC
SHUTTLE(L)/NC
J2/JOG_A
J1/JOG_B
SHORT
SHORT
B7092
B7093
37 JOG

4.20 SWITCH/DISPLAY, REC SAFETY, JACK AND JOG CIRCUIT BOARDS [HR-S8600EU]

— JOG —


UN7091
8
CN7005
1
5
2
6
B7092
B7093
B7094
3 7 LPA10056-
JOG PWB ASS'Y
LPB10056
-001A
FRONT PWB
UL MARK
1

— REC SAFETY —


3 2 REC SAFE
S7041
LPA10056
-01A2
LPB10056
-001A
FRONT
PWB
UL MARK
1 2
REC SAFE
PWB AY
FW7001 1 2

COMPONENT PARTS LOCATION GUIDE (SW/DISPLAY)

REF.NO.	LOCATION		
CAPACITOR			
C7001	A	D	5A
C7002	A	D	2A
C7003	A	D	1A
C7004	A	D	4A
C7005	A	D	4A
C7006	A	D	4A
C7007	A	D	1B
C7008	A	D	6A
C7009	A	D	6A
C7010	A	D	6A
C7011	A	D	1A
C7012	A	D	2A
C7013	A	D	7A
C7014	A	D	7A
C7015	A	D	7A
C7016	A	D	7A
C7017	A	D	7A
C7018	A	D	6A
C7019	A	D	1B
C7020	A	D	5A

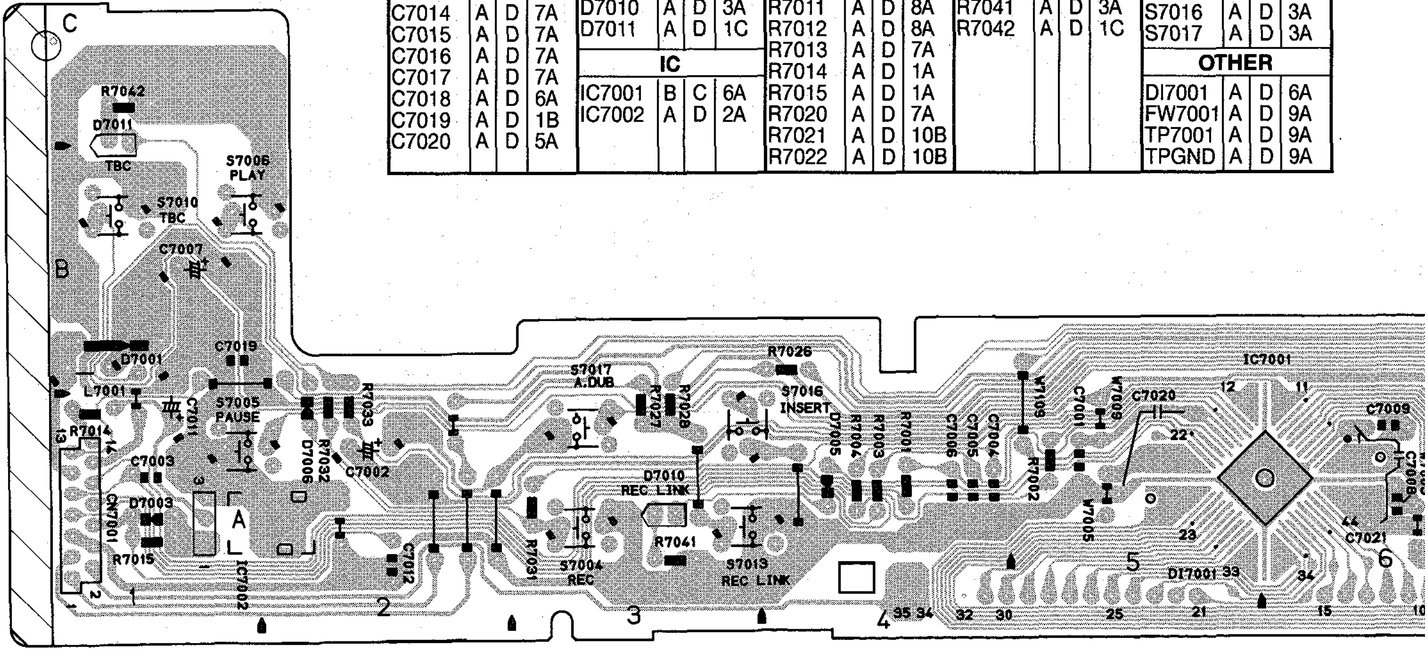
REF.NO.	LOCATION		
C7021	A	D	6A
C7022	A	D	11B
CONNECTOR			
CN7001	A	D	1A
DIODE			
D7001	A	D	1B
D7002	A	D	7A
D7003	A	D	1A
D7004	A	D	10B
D7005	A	D	4A
D7006	A	D	2A
D7008	A	D	10B
D7010	A	D	3A
D7011	A	D	1C
IC			
IC7001	B	C	6A
IC7002	A	D	2A

REF.NO.	LOCATION		
COIL			
L7001	A	D	1B
RESISTOR			
R7001	A	D	4A
R7002	A	D	5A
R7003	A	D	4A
R7004	A	D	4A
R7005	A	D	7A
R7006	A	D	7A
R7007	A	D	6A
R7008	A	D	6A
R7009	A	D	8A
R7010	A	D	8A
R7011	A	D	8A
R7012	A	D	8A
R7013	A	D	7A
R7014	A	D	1A
R7015	A	D	1A
R7020	A	D	7A
R7021	A	D	10B
R7022	A	D	10B

REF.NO.	LOCATION		
R7023	A	D	9A
R7024	A	D	9A
R7025	A	D	9A
R7026	A	D	4B
R7027	A	D	3B
R7028	A	D	3A
R7030	A	D	7A
R7031	A	D	3A
R7032	A	D	2A
R7033	A	D	2B
R7034	A	D	9A
R7037	A	D	9A
R7038	A	D	9A
R7040	A	D	10C
R7041	A	D	3A
R7042	A	D	1C

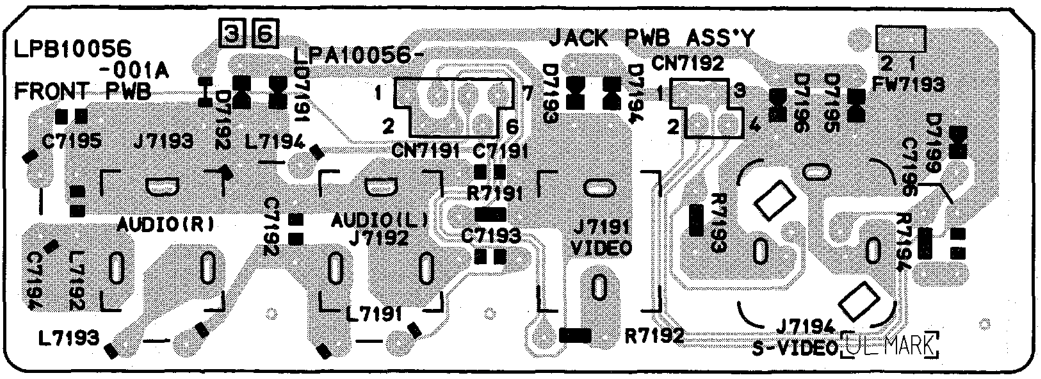
REF.NO.	LOCATION		
SWITCH			
S7001	A	D	11B
S7002	A	D	8A
S7003	A	D	8A
S7004	A	D	3A
S7005	A	D	1A
S7006	A	D	1B
S7007	A	D	9B
S7010	A	D	1B
S7011	A	D	11B
S7012	A	D	10B
S7013	A	D	3A
S7014	A	D	8A
S7015	A	D	8A
S7016	A	D	3A
S7017	A	D	3A
OTHER			
DI7001	A	D	6A
FW7001	A	D	9A
TP7001	A	D	9A
TPGND	A	D	9A

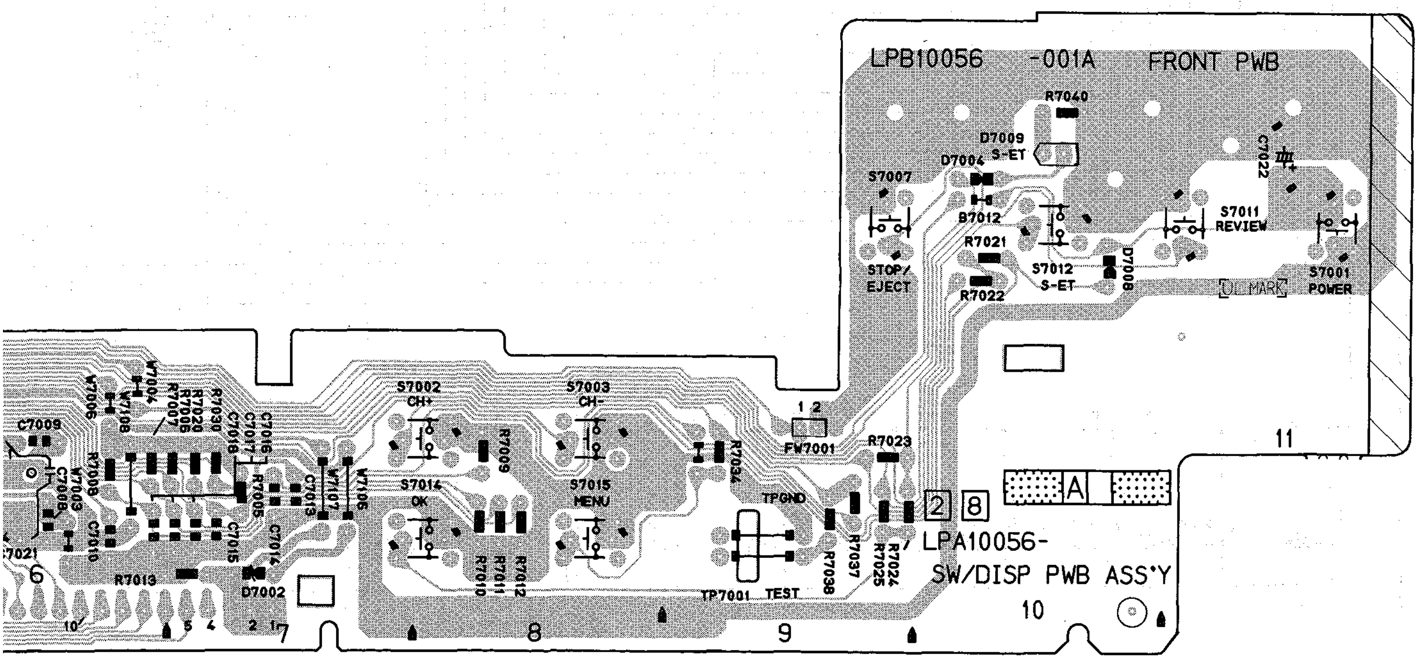
— SWITCH/DISPLAY —


C
B
A
R7042
D7011
TBC
S7006
PLAY
S7010
TBC
C7007
D7001
C7019
L7001
C7011
S7005
PAUSE
R7014
13
14
C7003
D7003
CN7001
R7015
2
1
3
D
L
R7033
R7032
D7006
C7002
IC7002
C7012
R7031
S7017
A.DUB
R7027
R7028
R7026
S7016
INSERT
D7010
REC LINK
S7004
REC
R7041
S7013
REC LINK
D7005
R7004
R7003
R7001
C7006
C7005
C7004
W7109
C7001
W7009
R7002
W7005
C7020
IC7001
12
11
22
23
33
34
44
C7009
C7008
C7021
DI7001
2
3
4
5
6
35 34
32
30
25
21
15
10

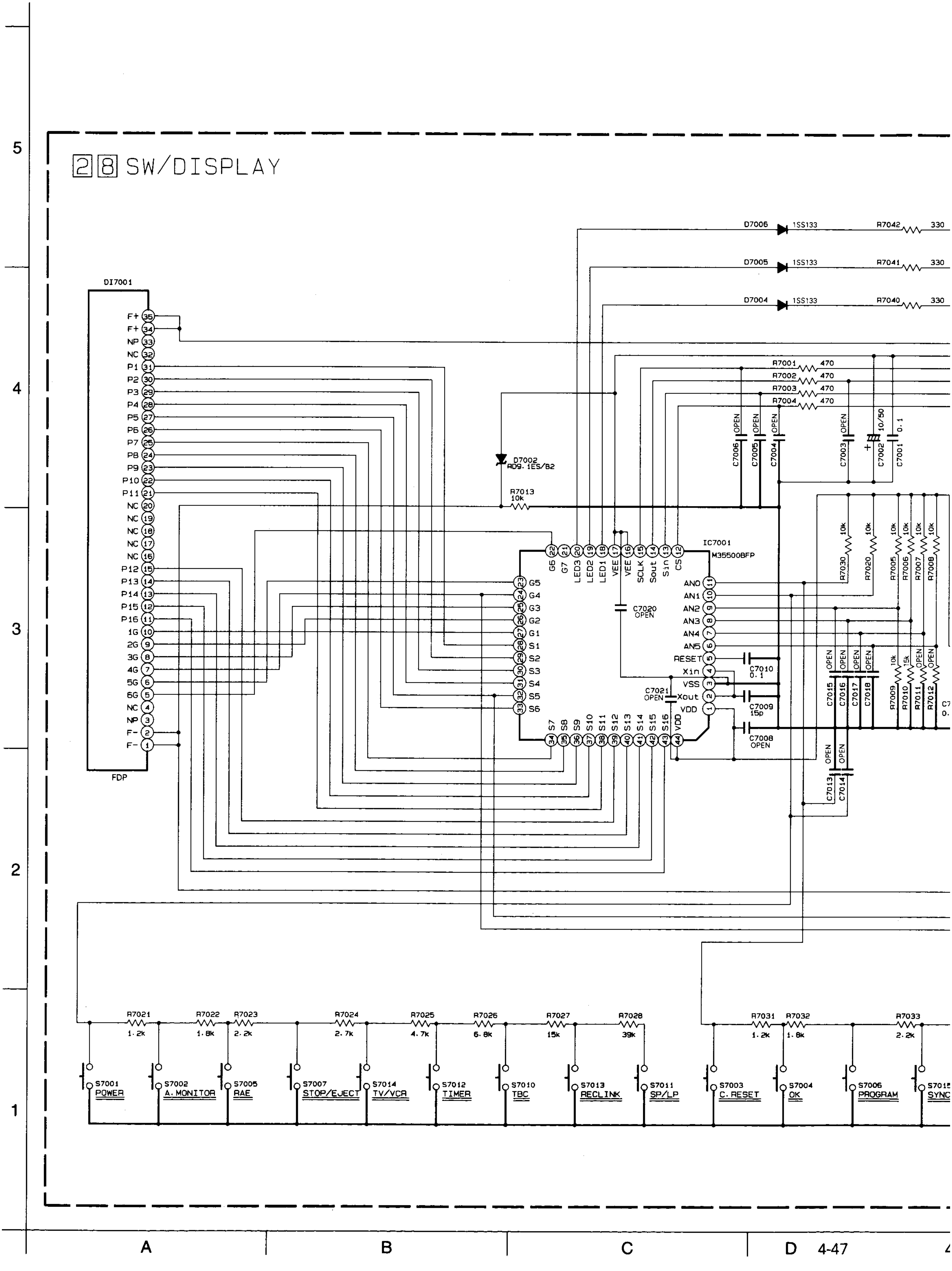
10056
01A2
SAFE
B AY
1 2

— JACK —

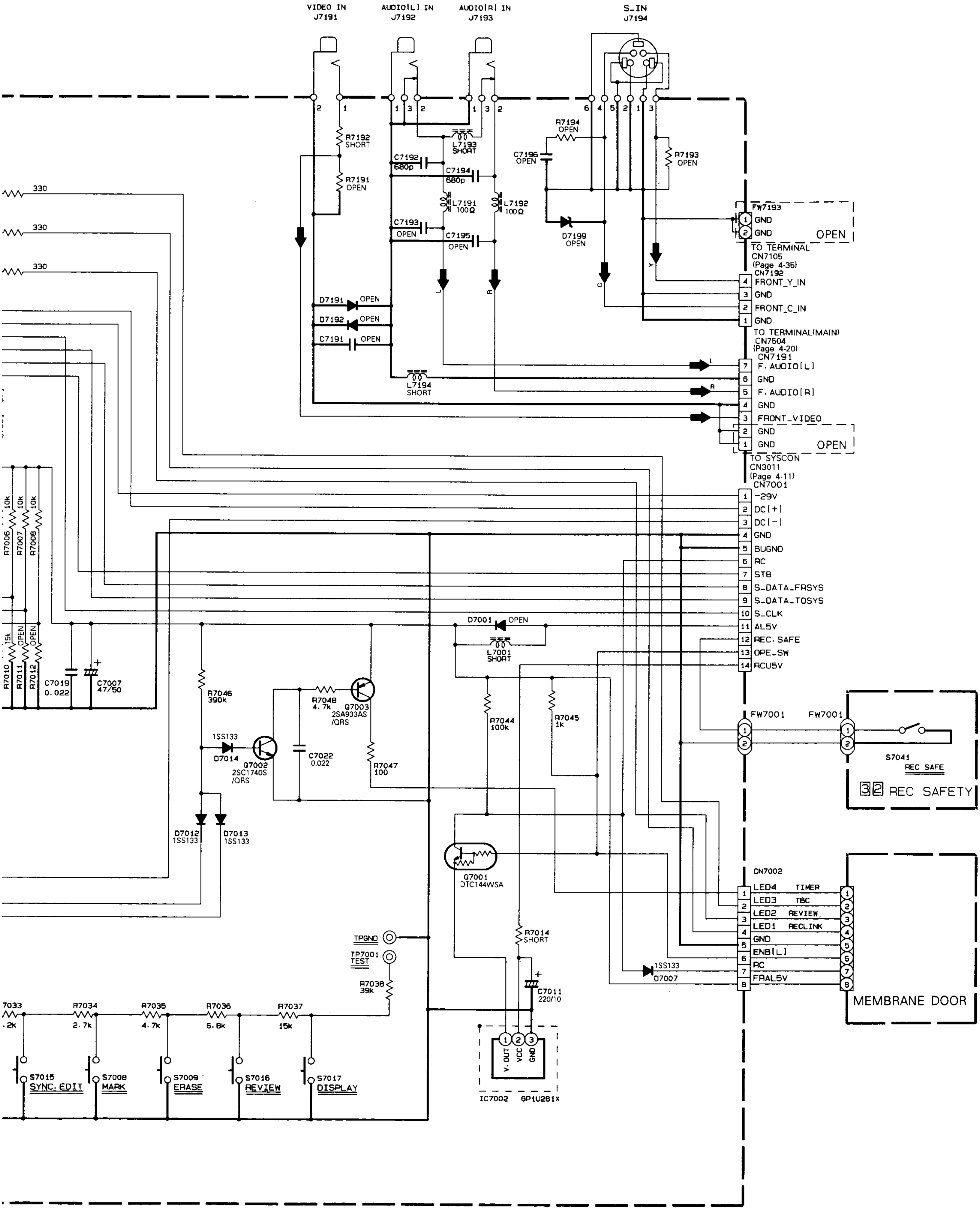

LPB10056
-001A
FRONT PWB
3
6
LPA10056-
JACK PWB ASS'Y
D7191
D7192
D7193
D7194
D7195
D7196
D7199
CN7191
CN7192
FW7193
C7191
C7192
C7193
C7194
C7195
C7196
J7191
VIDEO
J7192
AUDIO(L)
J7193
AUDIO(R)
J7194
S-VIDEO
L7191
L7192
L7193
L7194
R7191
R7192
R7193
R7194
UL MARK


LPB10056 -001A FRONT PWB
R7040
D7009
S-ET
D7004
S7007
STOP/
EJECT
R7012
R7021
R7022
S7012
S-ET
D7008
S7011
REVIEW
C7022
S7001
POWER
UL MARK
11
S7002
CH+
S7003
CH-
S7014
OK
S7015
MENU
R7009
R7010
R7011
R7012
R7034
FW7001
R7023
TPGND
TP7001 TEST
R7036
R7037
R7025
R7024
2
8
A
LPA10056-
SW/DISP PWB ASS'Y
C7009
C7008
C7010
C7013
C7014
C7015
C7016
C7017
C7018
W7003
W7004
W7006
W7106
W7107
W7108
R7005
R7006
R7007
R7008
R7013
R7020
R7030
D7002
7021
6
7
8
9
10

4.21 SWITCH/DISPLAY AND REC SAFETY SCHEMATIC DIAGRAMS [HR-S9600EU]



28 SW/DISPLAY
DI7001
FDP
F+ 35
F+ 34
NP 33
NC 32
P1 31
P2 30
P3 29
P4 28
P5 27
P6 26
P7 25
P8 24
P9 23
P10 22
P11 21
NC 20
NC 19
NC 18
NC 17
NC 16
P12 15
P13 14
P14 13
P15 12
P16 11
1G 10
2G 9
3G 8
4G 7
5G 6
6G 5
NC 4
NP 3
F- 2
F- 1
D7006 1SS133 R7042 330
D7005 1SS133 R7041 330
D7004 1SS133 R7040 330
D7002 RD9.1ES/B2
R7013 10k
IC7001
M35500BFP
G6 G7 LED3 LED2 LED1 VEE VEE SCLK Sout Sin CS
G5 G4 G3 G2 G1 S1 S2 S3 S4 S5 S6
S7 S8 S9 S10 S11 S12 S13 S14 S15 S16 VDD
AN0 AN1 AN2 AN3 AN4 AN5 RESET Xin VSS Xout VDD
C7020 OPEN
C7021 OPEN
C7010 0.1
C7009 15p
C7008 OPEN
R7001 470
R7002 470
R7003 470
R7004 470
C7006 OPEN
C7005 OPEN
C7004 OPEN
C7003 OPEN
C7002 10/50
C7001 0.1
R7030 10k
R7020 10k
R7005 10k
R7006 10k
R7007 10k
R7008 10k
R7009 10k
R7010 15k
R7011 OPEN
R7012
C7015 OPEN
C7016 OPEN
C7017 OPEN
C7018 OPEN
C7013 OPEN
C7014 OPEN
R7021 1.2k
R7022 1.8k
R7023 2.2k
R7024 2.7k
R7025 4.7k
R7026 6.8k
R7027 15k
R7028 39k
R7031 1.2k
R7032 1.8k
R7033 2.2k
S7001 POWER
S7002 A.MONITOR
S7005 RAE
S7007 STOP/EJECT
S7014 TV/VCR
S7012 TIMER
S7010 TBC
S7013 RECLINK
S7011 SP/LP
S7003 C.RESET
S7004 OK
S7006 PROGRAM
S7015 SYNC
5
4
3
2
1
A
B
C
D

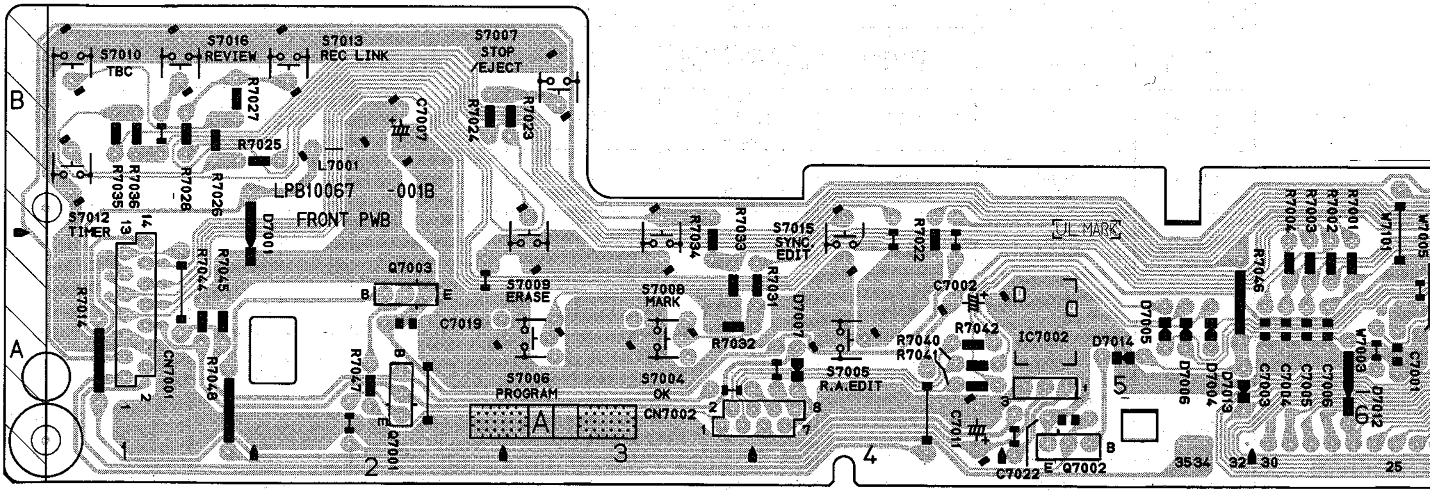

VIDEO IN
J7191
AUDIO[L] IN
J7192
AUDIO[R] IN
J7193
S_IN
J7194
R7192
SHORT
R7191
OPEN
L7193
SHORT
C7192
680p
C7194
680p
L7191
100Ω
L7192
100Ω
C7193
OPEN
C7195
OPEN
R7194
OPEN
C7196
OPEN
R7193
OPEN
D7199
OPEN
D7191 OPEN
D7192 OPEN
C7191 OPEN
L7194
SHORT
FW7193
GND
GND
OPEN
TO TERMINAL
CN7105
(Page 4-35)
CN7192
FRONT_Y_IN
GND
FRONT_C_IN
GND
TO TERMINAL(MAIN)
CN7504
(Page 4-20)
CN7191
F. AUDIO[L]
GND
F. AUDIO[R]
GND
FRONT_VIDEO
GND
GND
OPEN
TO SYSCON
CN3011
(Page 4-11)
CN7001
-29V
DC[+]
DC[-]
GND
BUGND
RC
STB
S_DATA_FRSYS
S_DATA_TOSYS
S_CLK
AL5V
REC. SAFE
OPE_SW
RCU5V
330
330
330
R7006 10k
R7007 10k
R7008 10k
R7010 15k
R7011 OPEN
R7012 OPEN
C7019
0.022
C7007
47/50
R7046
390k
1SS133
D7014
Q7002
2SC1740S
/QRS
R7048
4.7k
Q7003
2SA933AS
/QRS
C7022
0.022
R7047
100
D7012
1SS133
D7013
1SS133
D7001 OPEN
L7001
SHORT
R7044
100k
R7045
1k
Q7001
DTC144WSA
FW7001
FW7001
S7041
REC SAFE
32 REC SAFETY
CN7002
LED4 TIMER
LED3 TBC
LED2 REVIEW
LED1 RECLINK
GND
ENB[L]
RC
FRAL5V
MEMBRANE DOOR
1SS133
D7007
TPGND
TP7001
TEST
R7038
39k
R7014
SHORT
C7011
220/10
V.OUT
VCC
GND
IC7002 GP1U281X
7033
.2k
R7034
2.7k
R7035
4.7k
R7036
6.8k
R7037
15k
S7015
SYNC. EDIT
S7008
MARK
S7009
ERASE
S7016
REVIEW
S7017
DISPLAY

4.22 SWITCH/DISPLAY AND REC SAFETY CIRCUIT BOARDS [HR-S9600EU]

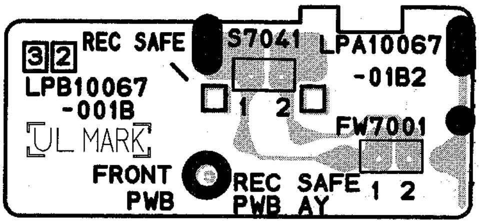
COMPONENT PARTS LOCATION GUIDE (SW/DISPLAY)

REF.NO.	LOCATION		
CAPACITOR			
C7001	A	D	6A
C7002	A	D	4A
C7003	A	D	6A
C7004	A	D	6A
C7005	A	D	6A
C7006	A	D	6A
C7007	A	D	2B
C7008	A	D	7A
C7009	A	D	7A
C7010	A	D	7A
C7011	A	D	4A
C7013	A	D	8A
C7014	A	D	8A
C7015	A	D	8A
C7016	A	D	8A
C7017	A	D	8A
C7018	A	D	7A
C7019	A	D	2A
C7020	A	D	6A
C7021	A	D	7A
C7022	A	D	5A
C7191	A	D	10A
C7192	A	D	11A
C7193	A	D	11A
C7194	A	D	10A
C7195	A	D	11A
C7196	A	D	11B
CONNECTOR			
CN7001	A	D	1A
CN7002	A	D	3A
CN7191	A	D	11A
CN7192	A	D	11B
DIODE			
D7001	A	D	1B
D7004	A	D	5A
D7005	A	D	5A
D7006	A	D	5A
D7007	A	D	4A
D7012	A	D	6A
D7013	A	D	5A
D7014	A	D	5A
D7191	A	D	10A
D7192	A	D	10A
D7199	A	D	11B
IC			
IC7001	B	C	7A
IC7002	A	D	5A
JACK			
J7191	A	D	10B
J7192	A	D	11A
J7193	A	D	10A
J7194	A	D	11B
COIL			
L7001	A	D	2B
L7191	A	D	11A
L7192	A	D	10A
L7193	A	D	10A
L7194	A	D	11A
TRANSISTOR			
Q7001	A	D	2A
Q7002	A	D	5A
Q7003	A	D	2A
RESISTOR			
R7001	A	D	6A
R7002	A	D	6A
R7003	A	D	6A
R7004	A	D	6A
R7005	A	D	8A
R7006	A	D	8A
R7007	A	D	8A
R7008	A	D	8A
R7009	A	D	9A
R7010	A	D	9A
R7011	A	D	9A
R7012	A	D	9A
R7013	A	D	8A
R7014	A	D	1A
R7020	A	D	8A
R7021	A	D	8A
R7022	A	D	4B
R7023	A	D	3B
R7024	A	D	2B
R7025	A	D	2B
R7026	A	D	1B
R7027	A	D	1B
R7028	A	D	1B
R7030	A	D	8A
R7031	A	D	4A
R7032	A	D	3A
R7033	A	D	3A
R7034	A	D	3A
R7035	A	D	1B
R7036	A	D	1B
R7037	A	D	9A
R7038	A	D	9A
R7040	A	D	4A
R7041	A	D	4A
R7042	A	D	4A
R7044	A	D	1A
R7045	A	D	1A
R7046	A	D	5A
R7047	A	D	2A
R7048	A	D	1A
R7191	A	D	11B
R7192	A	D	10B
R7193	A	D	11B
R7194	A	D	11B
SWITCH			
S7001	A	D	11B
S7002	A	D	10A
S7003	A	D	9A
S7004	A	D	3A
S7005	A	D	4A
S7006	A	D	3A
S7007	A	D	3B
S7008	A	D	3A
S7009	A	D	3A
S7010	A	D	1B
S7011	A	D	11B
S7012	A	D	1B
S7013	A	D	2B
S7014	A	D	10A
S7015	A	D	4A
S7016	A	D	1B
S7017	A	D	9B
OTHER			
DI7001	A	D	7A
D7002	A	D	8A
FW7001	A	D	10B
FW7193	A	D	11B
TP7001	A	D	9A
TPGND	A	D	9A

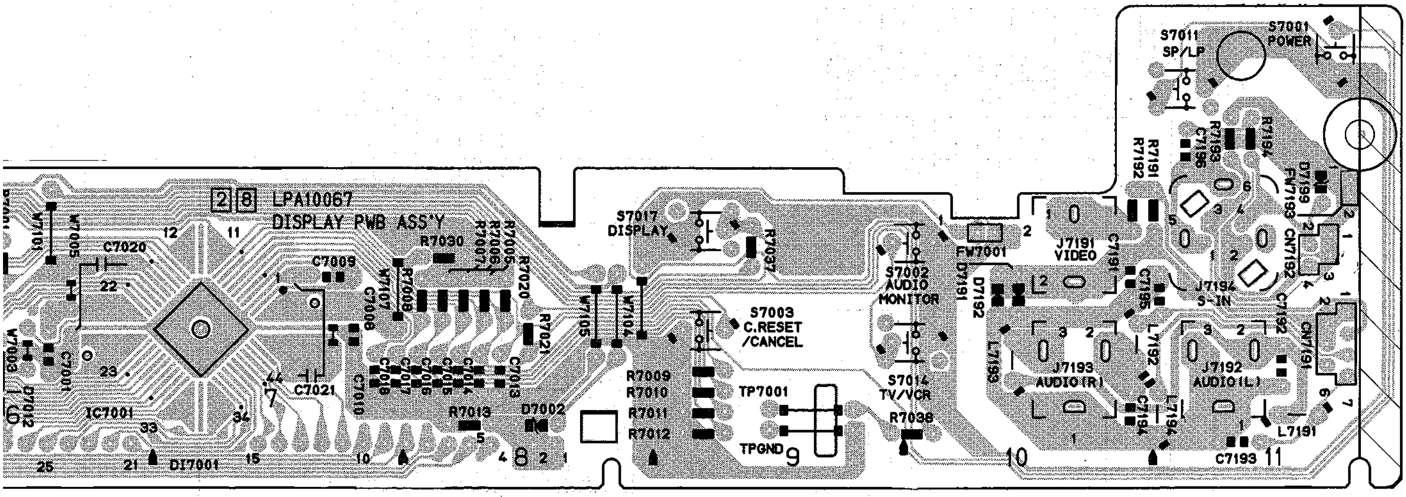
— SWITCH/DISPLAY —


S7010
TBC
S7016
REVIEW
S7013
REC LINK
S7007
STOP
/EJECT
B
A
R7027
R7025
L7001
C7007
R7024
R7023
R7035
R7036
R7028
R7026
LPB10067 -001B
FRONT PWB
D7001
S7012
TIMER
14
13
R7014
R7044
R7045
CN7001
R7048
Q7003
B
E
C7019
S7009
ERASE
S7008
MARK
R7047
Q7001
S7006
PROGRAM
S7004
OK
CN7002
R7034
R7033
R7031
R7032
D7007
S7015
SYNC.
EDIT
R7022
S7005
R.A.EDIT
C7002
R7042
R7040
R7041
C7011
C7022
IC7002
Q7002
D7014
UL MARK
D7005
D7006
D7004
D7019
R7046
R7004
R7003
R7002
R7001
W7101
W7005
W7003
C7003
C7004
C7005
C7006
D7012
C7001
1
2
3
4
5
6
35
34
32
30
25

— REC SAFETY —



32
REC SAFE
S7041
LPA10067
-01B2
LPB10067
-001B
1
2
FW7001
UL MARK
FRONT
PWB
REC SAFE
PWB AY
1 2

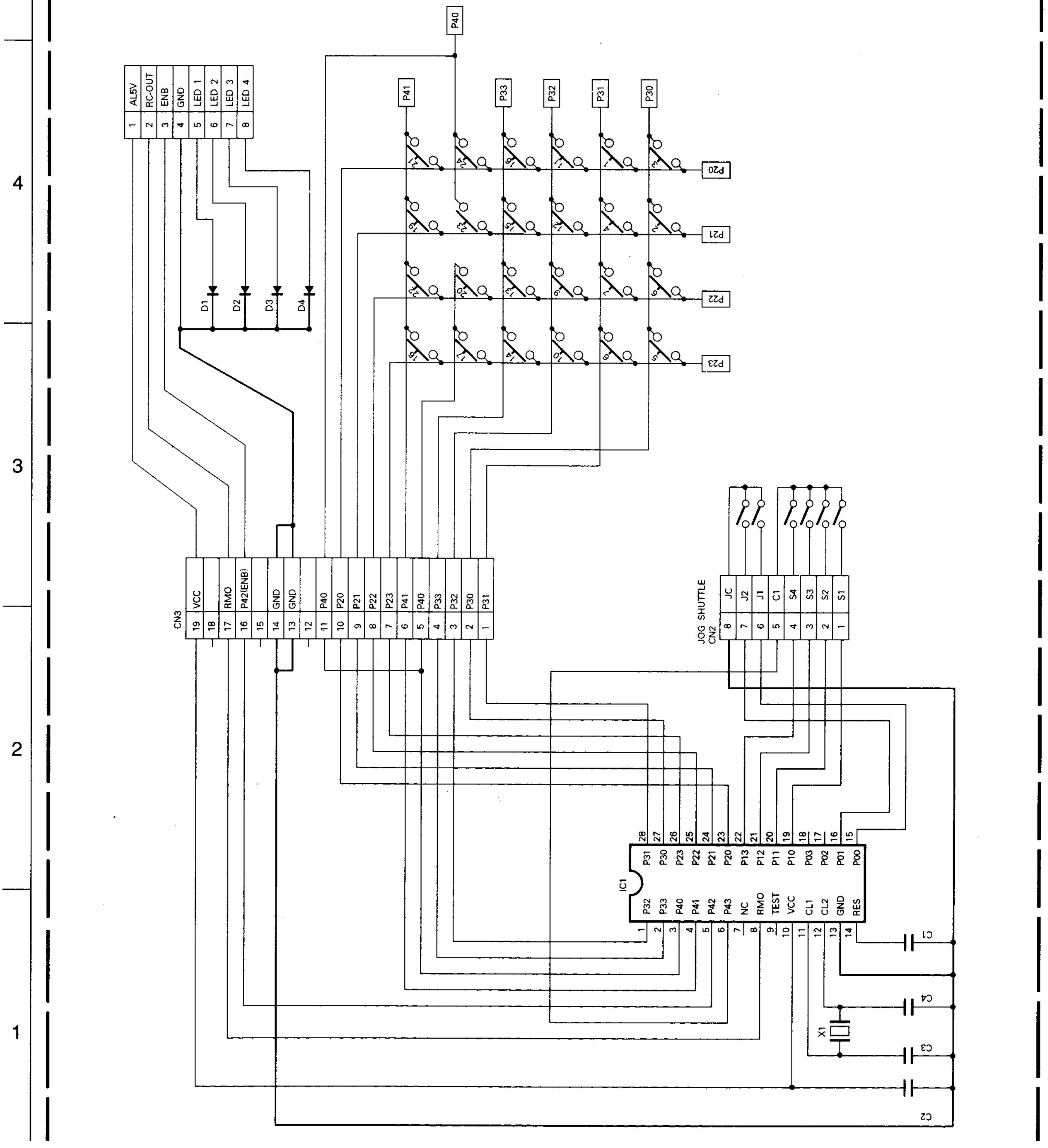


28
LPA10067
DISPLAY PWB ASS'Y
W7101
W7005
C7020
C7009
R7030
R7005
R7006
R7007
R7020
W7107
R7008
C7008
R7021
C7001
C7021
C7010
C7018
C7017
C7016
C7015
C7014
C7013
W7003
D7012
IC7001
R7013
D7002
DI7001
W7105
W7104
S7017
DISPLAY
R7037
S7003
C.RESET
/CANCEL
R7009
R7010
R7011
R7012
TP7001
TPGND
S7002
AUDIO
MONITOR
S7014
TV/VCR
R7038
FW7001
D7191
D7192
L7193
J7191
VIDEO
C7191
C7195
L7192
J7193
AUDIO(R)
C7194
L7194
J7192
AUDIO(L)
L7191
C7193
J7194
S-IN
C7192
CN7191
CN7192
FW7193
D7199
R7194
R7193
C7196
R7191
R7192
S7011
SP/LP
S7001
POWER
7
8
9
10
11

4.23 MEMBRANE DOOR SCHEMATIC DIAGRAM [HR-S9600EU]

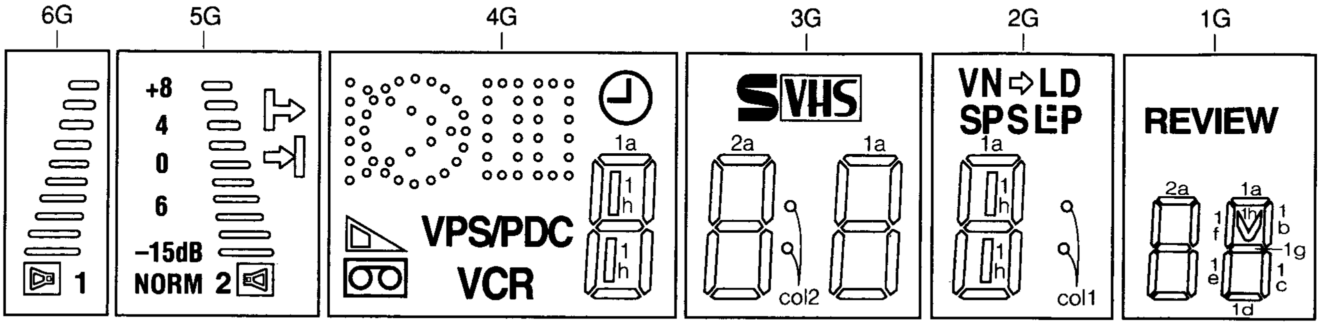
NOTES:
1. All parts shown in this schematic are critical for safety.
2. This schematic is only for reference.
Avoid replacing individual parts.
Replace the entire unit only.

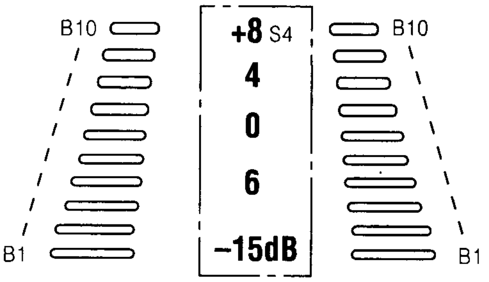
Key No.	Key Name
1	DAILY
2	WEEKLY
3	VPS/PDC
4	PROG
5	PROG CHECK
6	OK
7	START+
8	START−
9	STOP+
10	STOP−
11	DATE+
12	DATE−
13	TV PROG(CH)+
14	TV PROG(CH)−
15	STOP
16	REW
17	PLAY
18	FF
19	PAUSE
20	INSERT
21	A.DUB
22	REC
23	<<
24	>>
2+3	REC PAUSE
9+10	TRACKING ON/OFF


5
4
3
2
1
AL5V
RC-OUT
ENB
GND
LED 1
LED 2
LED 3
LED 4
D1
D2
D3
D4
P40
P41
P33
P32
P31
P30
P20
P21
P22
P23
CN3
VCC
RMO
P42(ENB)
GND
JOG SHUTTLE
CN2
JC
J2
J1
C1
S4
S3
S2
S1
IC1
P31
P30
P23
P22
P21
P20
P13
P12
P11
P10
P03
P02
P01
P00
P32
P33
P40
P41
P42
P43
NC
RMO
TEST
VCC
CL1
CL2
GND
RES
C1
C2
C3
C4
X1

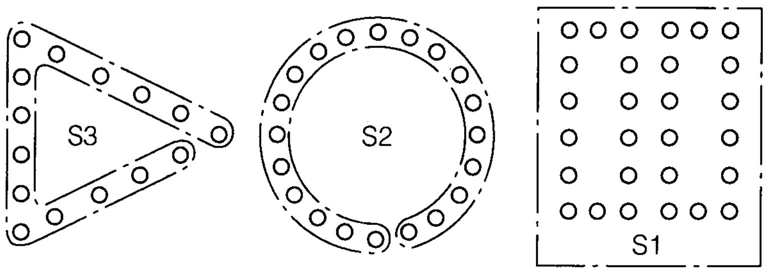
4.24 FDP GRID ASSIGNMENT AND ANODE CONNECTION

GRID ASSIGNMENT


6G
5G
4G
3G
2G
1G
1
+8
4
0
6
-15dB
NORM 2
VPS/PDC
VCR
1a
1
h
SVHS
2a
1a
col2
VN⇨LD
SPS:LP
1a
col1
REVIEW
2a
1a
1
f
1
b
1g
1
e
1
c
1d


B10
+8
S4
4
0
6
-15dB
B10
B1
B1

(6G, 5G)



(4G)

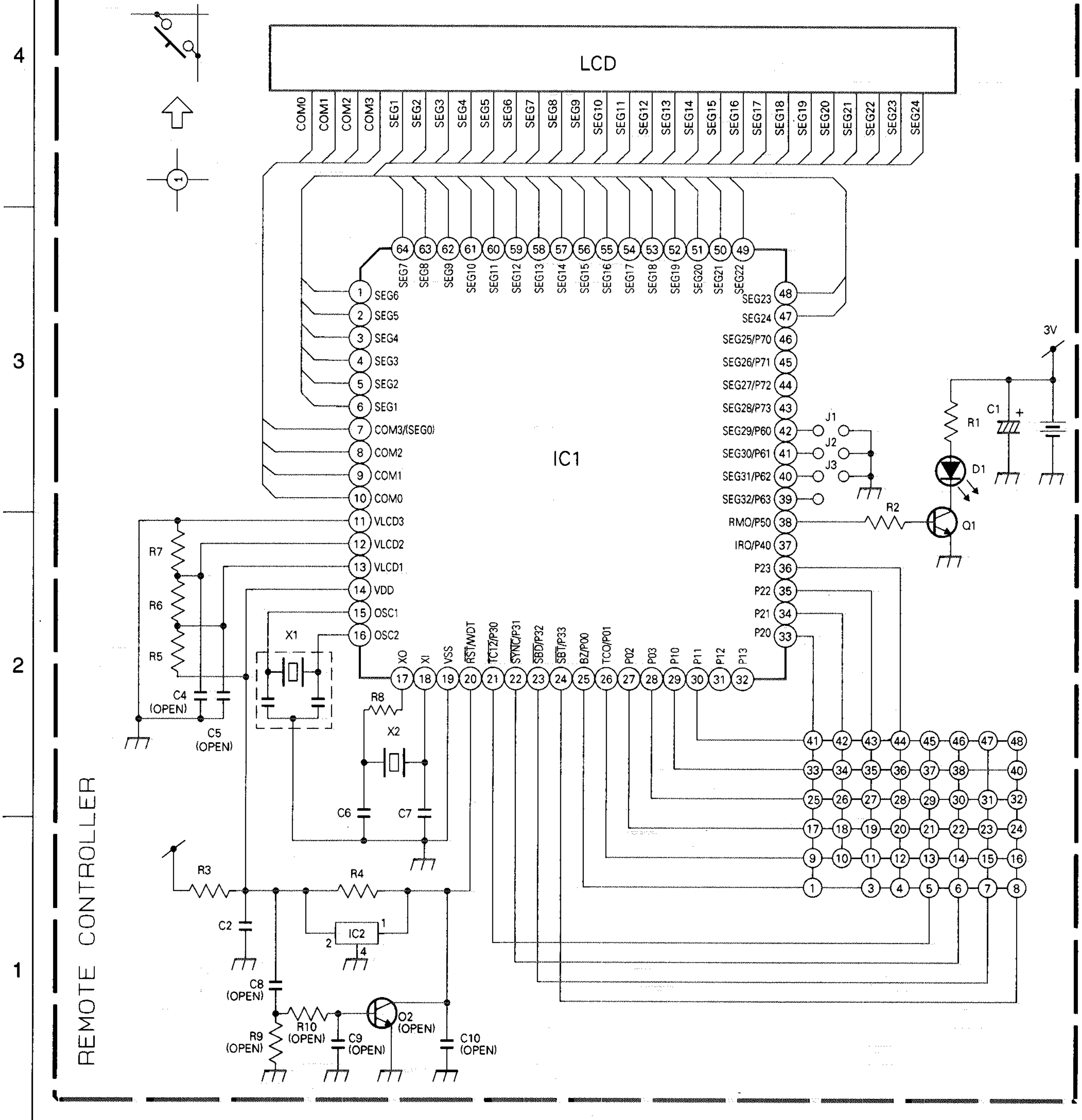
ANODE CONNECTION

	6G	5G	4G	3G	2G	1G
P 1	—	⇨	S2	1a	1a	1a
P 2	—	⇨|	S1	1b	1b	1b
P 3	—	S4	S3	1f	1f	1f
P 4	—	**NORM**	**VPS/PDC**	1g	1g	1g
P 5	**1**	**2**	◷	1c	1c	1c
P 6	🔈	🔈	◺	1e	1e	1e
P 7	B10	B10	📼	1d	1d	1d
P 8	B9	B9	**VCR**	col2	1h	1h
P 9	B8	B8	1a	2a	col1	2a
P10	B7	B7	1b	2b	⇨	2b
P11	B6	B6	1f	2f	**VN**	2f
P12	B5	B5	1g	2g	**LD**	2g
P13	B4	B4	1c	2c	**SP**	2c
P14	B3	B3	1e	2e	**S** (SEP)	2e
P15	B2	B2	1d	2d	**:** (SEP)	2d
P16	B1	B1	1h	**SVHS**	**LP**(SEP)	**REVIEW**

4.25 REMOTE CONTROL SCHEMATIC DIAGRAM

NOTES:
1. All parts shown in this schematic are critical for safety.
2. This schematic is only for reference.
Avoid replacing individual parts.
Replace the entire unit only.

KEY No.	KEY NAME
1	DATE−
3	FF
4	VCR−
5	START−
6	REW
7	PLAY
8	STOP−
9	9/WEEKLY
10	SP/LP[-/- -]
11	TRANS
12	TIMER
13	CANCEL
14	7/VPS
15	0/AUX
16	8/DAILY
17	DATE+
18	MENU
19	VCR+
20	OK
21	PROG
22	START+
23	PROG CHECK
24	STOP+
25	6
26	3
27	CM/30 SEC
28	RE-VIEW
29	1
30	4
31	2
32	5
33	▼/TV CH−
34	▲/TV CH+
35	>>/VOL+
36	PAUSE
37	REC
38	<</VOL−
40	STOP
41	CABLE/SAT
42	DISPLAY/ENTER
43	POWER
44	TV/VCR
45	PROG(G Code)
46	VCR
47	AUDIO/MUTE
48	TV
37+7	REC START
37+36	REC PAUSE



LCD
COM0
COM1
COM2
COM3
SEG1
SEG2
SEG3
SEG4
SEG5
SEG6
SEG7
SEG8
SEG9
SEG10
SEG11
SEG12
SEG13
SEG14
SEG15
SEG16
SEG17
SEG18
SEG19
SEG20
SEG21
SEG22
SEG23
SEG24
IC1
1 SEG6
2 SEG5
3 SEG4
4 SEG3
5 SEG2
6 SEG1
7 COM3/(SEG0)
8 COM2
9 COM1
10 COM0
11 VLCD3
12 VLCD2
13 VLCD1
14 VDD
15 OSC1
16 OSC2
17 XO
18 XI
19 VSS
20 RST/WDT
21 TC12/P30
22 SYNC/P31
23 SBD/P32
24 SBT/P33
25 BZ/P00
26 TCO/P01
27 P02
28 P03
29 P10
30 P11
31 P12
32 P13
33 P20
34 P21
35 P22
36 P23
37 IRO/P40
38 RMO/P50
39 SEG32/P63
40 SEG31/P62
41 SEG30/P61
42 SEG29/P60
43 SEG28/P73
44 SEG27/P72
45 SEG26/P71
46 SEG25/P70
47 SEG24
48 SEG23
49 SEG22
50 SEG21
51 SEG20
52 SEG19
53 SEG18
54 SEG17
55 SEG16
56 SEG15
57 SEG14
58 SEG13
59 SEG12
60 SEG11
61 SEG10
62 SEG9
63 SEG8
64 SEG7
J1
J2
J3
3V
C1
R1
D1
R2
Q1
R7
R6
R5
C4 (OPEN)
C5 (OPEN)
X1
R8
X2
C6
C7
R3
R4
C2
IC2
C8 (OPEN)
R9 (OPEN)
R10 (OPEN)
C9 (OPEN)
Q2 (OPEN)
C10 (OPEN)
REMOTE CONTROLLER
1
2
3
4
5
A
B
C
D

4.26 VOLTAGE CHARTS

<VIDEO/N.AUDIO>

MODE PIN NO.	REC	PLAY
IC1		
1	2.5	2.5
2	2.5	2.5
3	0	0
4	2.5	2.5
5	0	0
6	2.8	2.8
7	2.5	2.5
8	2.5	2.5
9	2.5	2.5
10	2.5	2.5
11	2.5	2.5
12	5.0	5.0
13	1.9	1.4
14	1.9	1.4
15	2.6	3.0
16	1.5	0.7
17	1.8	1.8
18	2.3	2.3
19	3.1	3.1
20	2.7	2.7
21	2.3	2.3
22	1.9	1.9
23	3.0	3.0
24	2.2	2.2
25	1.4	1.4
26	2.1	2.1
27	0	0
28	4.9	4.9
29	1.6	1.9
30	3.0	3.0
31	2.8	2.8
32	0	0
33	0	0
34	0	0
35	3.0	3.0
36	5.0	5.0
37	0	0
38	5.0	5.0
39	3.3	3.3
40	5.0	5.0
41	5.0	5.0
42	1.9	1.9
43	5.0	5.0
44	2.5	2.5
45	0	0
46	2.0	2.0
47	0	0
48	0	0
49	0	0
50	0.4	0.4
51	0	0
52	1.3	2.4
53	3.0	2.8
54	1.9	1.9
55	2.1	2.1
56	2.8	2.3
57	0	0
58	3.0	3.0
59	3.3	3.3
60	2.1	2.1
61	4.9	4.9
62	4.9	4.9
63	4.9	4.9
64	0	0
65	0.9	2.6
66	4.9	4.9
67	4.9	4.9
68	0	0
69	2.8	2.8
70	2.7	2.7
71	2.1	2.1
72	2.3	2.1
73	-	-
74	2.7	1.1
75	-	-
76	2.3	2.3
77	4.5	4.5
78	2.7	2.7
79	4.3	2.1
80	0	0
81	-	-
82	1.2	1.2
83	2.3	2.3
84	0	1.3
85	0	0
86	2.3	2.3
87	2.2	2.2
88	2.3	2.3
89	2.3	2.3
90	4.9	4.9
91	0	0
92	0	0
93	0	0
94	0	0
95	0.5	0.5
96	5.0	5.0
97	0.3	0
98	5.0	5.0
99	0.5	2.5
100	2.5	2.5
IC2		
1	2.7	2.7
2	0	0
3	2.7	2.7
4	4.9	0
5	2.7	2.7
6	5.0	5.0
7	2.0	2.0
8	0	0
Q1		
E	3.4	3.4
C	0	0
B	2.7	2.7
Q2		
E	0	-
C	2.1	-
B	0	-
Q6		
E	2.7	2.7
C	0	0
B	2.1	2.1
Q13		
E	1.1	1.1
C	3.9	3.9
B	1.7	1.7
Q14		
E	3.2	3.2
C	4.9	4.9
B	3.9	3.9
Q15		
E	3.8	3.8
C	0	0
B	3.2	3.2
Q16		
E	4.9	4.9
C	4.9	0
B	0.2	5.0
Q17		
E	0	0
C	0	0
B	3.0	3.0
Q18		
E	0	0
C	0	0
B	3.0	3.0
Q47		
E	4.9	4.9
C	2.3	2.3
B	2.8	2.8
Q48		
E	1.9	1.9
C	0	0
B	1.0	1.0
Q49		
E	2.1	2.1
C	4.9	4.9
B	2.8	2.8
Q55		
E	0	0
C	0	0
B	3.0	3.0
Q152		
E	5.0	2.7
C	0	0
B	4.5	2.1
Q153		
E	2.1	2.1
C	4.9	4.9
B	2.7	2.7
Q401		
E	11.5	-
C	11.5	-
B	10.8	11.5
Q402		
E	0	-
C	0	11.5
B	4.9	0
Q403		
E	0	-
C	0	-
B	4.9	-
Q404		
E	7.7	0
C	0	-
B	7.1	0
Q405		
E	10.0	0
C	0	-
B	9.5	0
Q2001		
E	-19.0	0
C	0	0
B	-25.3	0.7
Q2002		
E	-19.0	0
C	0	0
B	-24.9	0.7
Q2003		
E	5.0	5.0
C	-25.1	4.9
B	5.0	0
Q2051		
E	0	0
C	8.1	0.2
B	0	0.2
Q2052		
E	11.5	11.5
C	11.3	1.1
B	10.7	11.5
Q2053		
E	0	0
C	0	11.4
B	4.5	0
Q2054		
E	11.3	1.1
C	11.2	0
B	10.5	1.1
Q2055		
E	0	0
C	0	1.1
B	5.0	0
Q2061		
E	0	0
C	7.9	0.2
B	0	0.2
Q2062		
E	11.2	0
C	11.1	0.2
B	10.4	0
Q2063		
E	0	0
C	0	0
B	5.0	0
Q2102		
E	0	-
C	0	-
B	4.9	-
CN1		
1	0	-
2	0	-
3	0	-
4	0	-
5	2.3	-
6	2.3	-
7	2.4	-
8	2.4	-
9	2.5	-
10	2.5	0
11	2.5	0
12	0	0
13	0	0
CN101		
1	0	0
2	-	-
3	4.8	4.8
4	-	-
5	4.9	4.9
6	0	0
7	0	0
8	0	0
9	0.5	0
10	0	0
11	0	0
12	0	0
13	5.0	5.0
14	4.9	4.9
15	0	0
16	0	0
17	0.4	0.4
18	0	0
19	3.4	3.4
20	0	0
21	0	0
22	2.1	2.1
23	0	0
24	0	0
25	0	0
26	0	0
27	0	0
28	0	0
29	0	0
30	0	0
CN102		
1	1.4	1.1
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	1.4	1.1
8	1.9	1.9
9	1.3	2.3
10	5.0	5.0
11	2.4	2.4
12	2.9	2.9
13	0	0
14	0	0
15	2.3	2.3
16	0	0
17	4.9	4.9
18	4.9	4.9
19	4.9	4.9
20	5.0	5.0
21	2.3	2.3
22	0	0
23	2.3	2.3
24	0	0
25	0	0
26	2.4	2.4
27	1.8	1.8
28	0	0
29	0	0
30	0	0
CN2001		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	2.2	2.5
7	2.5	2.5
CN2002		
1	0	0
2	0	0

<ON SCREEN>

MODE PIN NO.	REC	PLAY
IC201		
1	0	0
2	2.7	2.7
3	5.0	5.0
4	0	0
5	4.7	4.7
6	2.5	2.5
7	2.5	2.5
8	5.0	5.0
9	3.0	3.0
10	4.5	4.5
11	1.2	1.2
12	5.0	5.0
13	2.9	2.9
14	2.9	2.9
15	0	0
16	1.2	1.2
17	0	0
18	5.0	5.0
19	2.3	2.3
20	0	0
21	2.3	2.3
22	0.5	0.5
23	5.0	5.0
24	2.9	2.9
25	2.5	2.5
26	5.0	5.0
27	4.7	4.7
28	3.7	3.7
29	5.0	5.0
30	5.0	5.0
Q207		
E	3.0	3.0
C	0	0
B	2.3	2.3
Q208		
E	2.3	2.3
C	5.0	5.0
B	3.0	3.0

<FMA>

MODE PIN NO.	REC	PLAY
IC2201		
1	2.4	2.4
2	0	0
3	2.4	2.4

MODE PIN NO.	REC	PLAY
4	0	0
5	0	0
6	2.5	2.5
7	2.0	2.0
8	0	0
9	0	0
10	0	0
11	0	0
12	2.0	2.0
13	0	0
14	0	0
15	0	0
16	2.5	2.5
17	0.6	0.3
18	2.5	2.5
19	2.5	2.5
20	2.5	0.1
21	2.5	0
22	2.6	0.6
23	0	0
24	2.5	0.7
25	4.9	4.9
26	2.6	0
27	0	-
28	4.2	0
29	4.4	1.8
30	4.4	1.7
31	1.0	3.0
32	2.5	2.5
33	2.5	2.5
34	0.7	0.3
35	2.5	2.5
36	0	0.2
37	1.7	1.7
38	0	0
39	0	0
40	5.0	5.0
41	0	0
42	5.0	5.0
43	4.9	4.9
44	3.2	3.2
45	0	0
46	4.8	4.8
47	2.5	2.5
48	2.5	2.5
49	3.4	2.8
50	1.3	2.9
51	0	0
52	0	0
53	4.4	4.4
54	0	0
55	0	0
56	0	0
57	4.4	4.4
58	10.0	10.0
59	4.5	4.5
60	0	0.8
61	2.5	2.5
62	2.4	2.4
63	4.4	4.4
64	4.5	4.5
Q2151		
E	4.9	4.9
C	5.0	5.0
B	2.1	2.1
Q2152		
E	5.0	5.0
C	4.9	4.9
B	0	0.2
Q2201		
E	0	0
C	0	0
B	0	0
Q2202		
E	0	0
C	0	0
B	0	0
Q2203		
E	5.2	5.2
C	0	0
B	5.1	5.1
Q2204		
E	0	0
C	5.1	5.1
B	0	0.2
Q2253		
E	0	0
C	0	0
B	4.6	4.6
Q2255		
E	0	0
C	0	0
B	4.2	4.2
Q2256		
E	0	0
C	4.2	4.2
B	0	0
Q2258		
E	4.5	0
C	4.4	1.7
B	0.2	5.0

<SYSTEM CONTROL>

MODE PIN NO.	REC	PLAY
IC3001		
1	2.8	2.5
2	0	0
3	1.9	2.5
4	2.5	2.5
5	2.5	2.5
6	2.6	2.6
7	2.5	2.5
8	2.5	2.5
9	5.1	5.1
10	5.1	5.1
11	0	0
12	0	0.2
13	0	1.1
14	4.6	4.6
15	5.1	5.1
16	1.3	2.9
17	0	0.7
18	0	0
19	3.4	2.8
20	0.2	0.2
21	4.1	4.1
22	4.2	0
23	0	0
24	5.0	5.0
25	0	0
26	5.1	5.1
27	5.1	5.1
28	5.1	5.1
29	5.1	5.1
30	0	0
31	5.1	5.1
32	0	0
33	0	0
34	0	0
35	0	0
36	0	0
37	5.0	5.0
38	1.8	1.8
39	4.5	4.5
40	0	0
41	5.1	5.1
42	4.6	4.6
43	0	0
44	0	0
45	5.1	5.1
46	5.1	0
47	0	0
48	5.1	0
49	4.9	4.9
50	4.9	4.9
51	5.1	5.1
52	1.0	1.0
53	4.5	4.5
54	-	-
55	-	-
56	0	0
57	0	0
58	5.0	5.0
59	3.0	3.0
60	0	0
61	0	0
62	0	0
63	0	0
64	-	-
65	-	-
66	5.1	5.1
67	-	-
68	0	0
69	-	-
70	5.1	5.1
71	5.1	5.1
72	5.0	5.0
73	5.1	5.1
74	0	0
75	4.7	4.7
76	4.7	4.7
77	3.1	3.1
78	5.1	0
79	0	5.1
80	0	0
81	0	0
82	5.1	5.1
83	-	-
84	0	0
85	0	0
86	4.7	4.7
87	5.1	5.1
88	4.8	0
89	0	0
90	0	0
91	3.0	3.0
92	5.0	5.0
93	5.1	5.1
94	5.1	5.1
95	5.1	5.1
96	0	0
97	5.1	5.1
98	0.2	0.2
99	0	-
100	-	-
101	2.5	2.5
102	1.2	1.2
103	0	0
104	0	0
105	5.1	5.1
106	5.0	5.0
107	0	0
108	1.6	1.6
109	5.1	5.1
110	0	0
111	0	0
112	2.5	2.5
IC3002		
1	5.1	5.1
2	5.0	5.0
3	0	0
IC3003		
1	0	0
2	0	0
3	0	0
4	0	0
5	4.7	4.7
6	4.7	4.7
7	0	0
8	5.1	5.1
IC3004		
1	0	0
2	12.2	12.2
3	-	0
4	0	0
5	0	0
6	12.2	12.2
7	0	0.3
8	12.2	12.2
9	0	0
IC3301		
1	5.0	-
2	5.0	-
3	0	-
4	0	5.0
5	3.0	-
6	3.0	-
7	5.0	-
8	5.0	0
9	0	-
10	0	-
11	5.0	-
12	5.0	-
13	4.7	-
14	4.7	-
15	0	-
16	0	-
17	5.0	-
18	5.0	-
19	2.2	-
20	2.3	-
21	0	-
22	0	-
23	0	-
24	0	-
25	5.0	-
26	0	-
27	0	-
28	0	-
29	0	-
30	0	-
31	5.0	0
32	5.0	0
33	0	-
34	0	-
35	0	-
36	0	-
37	0	-
38	0	-
39	0	-
40	0	-
41	0.5	0.7
42	2.2	-
IC3501		
1	0	-
2	12.3	-
3	3.0	0.3
4	0.8	-
5	0	-
6	12.3	-
7	3.0	0.3
8	3.5	-
9	0	-
Q3001		
E	0	0
C	12.2	12.2
B	0	0
Q3002		
E	0	0
C	4.8	4.7
Q3003		
E	0	0
C	5.0	5.0
Q3004		
E	0	0
C	0	0
B	0.7	0.7
Q3005		
E	5.1	5.1
C	5.8	5.8
B	5.7	5.7
Q3007		
E	0	0
C	0	0
B	0	0
Q3008		
E	0	0
C	4.9	4.9
B	0	0
Q3501		
E	3.4	-
C	3.5	-
B	4.1	-
Q4001		
E	0	0
C	0	0
B	5.0	5.0
CN3001		
1	11.5	11.5
2	0	0
3	1.3	1.3
4	0	0
5	1.6	1.6
CN3002		
1	0	0.4
2	0	0.4
CN3003		
1	0	0
2	2.5	2.5
3	2.5	2.5
4	5.0	5.0
5	0	0
6	5.1	5.1
7	0	0
8	11.5	11.5
CN3004		
1	5.1	5.1
2	5.1	5.1
3	0	0
4	0	0
CN3011		
1	5.1	5.1
2	0	0
3	5.1	5.1
4	5.1	5.1
5	4.5	4.5
6	5.1	5.1
7	1.1	1.1
8	4.3	4.5
9	5.1	5.1
10	0	0
11	0	0
12	-19.5	-19.5
13	-15.7	-15.7
14	-28.4	-28.4
CN3012		
1	0.5	0.5
2	0.5	0.5
3	0	0
4	0	0
5	0	0
6	0	0
CN3501		
1	0	-
2	0	-
3	0	-

MODE PIN NO.	REC	PLAY
4	5.0	-
5	0.5	-
6	0.4	-

<SW. REG>

MODE PIN NO.	REC	PLAY
IC5301		
1	5.8	5.8
2	5.0	5.0
3	4.9	4.9
4	0	0
5	12.2	12.2
6	11.5	11.5
7	12.2	12.2
8	1.2	1.2
9	1.2	1.2
10	10.8	10.8
Q5101		
S	0	0
D	160.7	157.0
G	-	-
Q5102		
E	0	0
C	-	-
B	-	-
Q5301		
E	21.0	21.0
C	11.5	11.5
B	21.0	21.0
Q5302		
E	0	0
C	20.9	21.1
B	0	0
Q5303		
E	5.2	5.2
C	5.8	5.8
B	5.8	5.8
Q5304		
E	11.5	11.5
C	12.3	12.3
B	12.2	12.2
Q5305		
E	12.2	12.2
C	12.2	12.2
B	0.6	0.6
Q5306		
E	12.2	12.2
C	11.5	11.5
B	10.9	10.9
Q5310		
E	0	0
C	0	0
B	4.6	4.6
Q5311		
E	32.1	32.1
C	32.1	32.1
B	31.5	31.5
Q5312		
E	-15.4	-15.4
C	-15.6	-15.6
B	-16.1	-16.1

<TUNER>

MODE PIN NO.	REC	PLAY
IC6080		
1	1.2	1.2
2	1.7	1.7
3	2.9	2.9
4	0	0
5	4.1	4.1
6	4.1	4.1
7	4.1	4.1
8	11.5	11.5
Q6030		
E	0.7	0.7
C	0	0
B	0	0
Q6031		
E	0	0
C	0	0
B	5.0	5.0
Q6032		
E	0	0
C	0	0
B	4.3	4.3
CN6701		
1	-	-
2	4.7	4.7
3	4.7	4.7
4	0	0
5	4.9	4.9
6	11.5	11.5
7	0	0
8	0	0
9	0	0
10	2.4	2.4
11	0	0
12	4.4	4.4

<C.BOX CTL>

MODE PIN NO.	REC	PLAY
IC3961		
1	0	-
2	5.0	-
3	5.0	-
4	0	-
5	5.0	-
6	5.0	-
7	5.0	0
8	5.0	-
IC3962		
1	0	-
2	5.0	-
3	5.0	-
4	0	-
5	5.0	-
6	5.0	-
7	0	-
8	5.0	-

<TERMINAL(MAIN)>

MODE PIN NO.	REC	PLAY
CN7501		
1	0.2	5.0
2	0	0
3	0	0
4	2.3	2.3
5	0	0
6	1.2	1.2
7	11.5	11.5
8	0.7	0.7
9	11.5	11.5
CN7502		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	4.8	4.8
8	4.7	4.7
9	5.1	5.1
10	5.1	5.1
CN7503		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	0	0
8	0	0
9	0	0
10	0	0
CN7504		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0

<VSC>

MODE PIN NO.	REC	PLAY
IC2501		
1	0	-
2	0	-
3	0	-
4	0	-
5	0	-
6	0	-
7	0	-
8	0	-
9	0	-
10	4.5	2.1
11	5.0	2.6
12	0	-
13	0	-
14	0	-
15	0	-
16	0	-
17	0	-
18	5.0	-
19	0	1.6
20	5.0	-
21	0	-
22	0	-
23	0	-
24	5.0	-
25	5.0	-
26	5.0	-
27	5.0	-
28	5.0	-
29	5.0	-
30	5.0	-
31	5.0	-
32	0	-
33	2.2	-
34	0.4	0.6
35	0	-
36	0	-
37	5.0	-
38	0	-
39	0	-
40	0	-
41	0	-
42	0	-
43	2.5	-
44	0	-
45	2.5	-
46	2.5	-
47	2.5	-
48	2.5	-
49	2.5	-
50	2.5	-
51	2.5	-
52	2.5	-
53	5.0	-
54	0	0.5
55	1.0	0
56	0	-
57	0	-
58	5.0	-
59	5.0	-
60	5.0	0
61	5.0	-
62	0	-
63	0	-
64	0	-
Q2501		
E	0	-
C	0	-
B	0	0.5
Q2502		
E	0	-
C	0	0.4
B	5.0	0

<3D SVHS (VIDEO)>

MODE PIN NO.	REC	PLAY
IC1001		
1	3.0	3.0
2	0	3.9
3	2.2	2.2
4	1.8	1.8
5	2.9	2.9
6	2.8	2.8
7	2.3	2.3
8	3.0	3.0
9	2.3	2.3
10	2.8	2.8
11	2.8	2.8
12	2.2	2.2
13	4.9	4.9
14	4.9	4.9
15	2.5	2.5
16	3.0	2.8
17	0	0
18	2.9	2.1
19	0.5	1.1
20	0	0.4
21	2.3	2.3
22	2.8	2.8
23	2.3	2.3
24	0	0
25	3.4	3.4
26	2.1	2.1
27	2.8	2.8
28	2.8	2.8
29	2.8	2.8
30	0	0
31	2.8	2.8
32	0	0
33	2.8	2.8
34	4.9	4.9
35	2.8	2.8
36	1.9	1.9
37	3.1	3.1
38	2.9	2.9
39	2.4	2.4
40	2.7	2.7
41	2.9	2.9
42	2.8	2.8
43	3.1	3.1
44	2.2	2.2
45	0	0
46	2.8	2.8
47	1.9	1.1
48	2.8	2.8
49	4.9	4.9
50	2.8	2.8
51	4.9	4.9
52	2.8	2.8
53	1.9	1.9
54	2.6	3.6
55	0	0
56	2.3	2.3
IC1002		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
9	-	-
10	-	-
11	-	-
12	-	-
13	-	-
14	-	-
15	-	-
16	-	-
17	-	-
18	-	-
IC1006		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
9	-	-
10	-	-
11	2.7	2.7
12	1.5	1.5
13	0.8	0.8
14	3.3	3.3
15	3.4	3.2
16	1.3	1.3
17	4.0	4.0
18	1.1	1.1
19	4.8	4.8
20	0.7	0.7
IC1007		
1	-	-
2	-	-
3	-	-
4	-	-
5	2.2	2.2
6	2.0	2.0
7	3.7	3.7
8	4.9	4.9
Q1004		
E	-	-
C	-	-
B	-	-
Q1005		
E	0	0
C	0	0
B	2.6	2.6
Q1006		
E	3.9	3.9
C	0	0
B	3.3	3.3

MODE PIN NO.	REC	PLAY
Q1007		
E	1.4	1.4
C	3.5	3.5
B	2.1	2.1
Q1012		
E	2.5	2.5
C	4.9	4.9
B	3.2	3.2
Q1014		
E	0	0
C	1.2	1.2
B	0.6	0.6
Q1015		
E	0.6	0.6
C	3.2	3.2
B	1.3	1.3
Q1016		
E	-	-
C	-	-
B	-	-
Q1021		
E	3.0	3.0
C	0	0
B	2.4	2.4
Q1022		
E	0	0
C	4.4	0
B	0.3	3.9
CN1001		
1	0	0
2	-	-
3	4.8	4.8
4	-	-
5	4.9	4.9
6	0	0
7	0	0
8	0	0
9	0.5	0
10	0	0
11	0	0
12	0	0
13	5.0	5.0
14	4.9	4.9
15	0	0
16	0	0
17	0.4	0.4
18	0	0
19	3.4	3.4
20	0	0
21	0	0
22	2.1	2.1
23	0	0
24	0	0
25	0	0
26	0	0
27	0	0
28	0	0
29	0	0
30	0	0
CN1002		
1	1.4	1.1
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	1.4	1.1
8	1.9	1.9
9	1.3	2.3
10	5.0	5.0
11	2.4	2.4
12	2.9	2.9
13	0	0
14	0	0
15	2.3	2.3
16	0	0

MODE PIN NO.	REC	PLAY
17	4.9	4.9
18	4.9	4.9
19	4.9	4.9
20	5.0	5.0
21	2.3	2.3
22	0	0
23	2.3	2.3
24	0	0
25	0	0
26	2.4	2.4
27	1.8	1.8
28	0	0
29	0	0
30	0	0
CN1003		
1	2.1	2.1
2	0	0
3	2.3	2.3
4	0	0
5	5.7	5.7
6	0	0
7	5.6	5.6

<3D SVHS (3D/TBC)>

MODE PIN NO.	REC	PLAY
IC1401		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
9	-	-
10	-	-
11	-	-
12	-	-
13	-	-
14	-	-
15	-	-
16	-	-
17	-	-
18	-	-
19	-	-
20	-	-
21	-	-
22	-	-
23	-	-
24	-	-
25	-	-
26	-	-
27	-	-
28	-	-
29	-	-
30	-	-
31	-	-
32	-	-
33	-	-
34	-	-
35	-	-
36	-	-
37	-	-
38	-	-
39	-	-
40	-	-
41	-	-
42	-	-
43	-	-
44	-	-
45	-	-

MODE PIN NO.	REC	PLAY
46	-	-
47	-	-
48	-	-
49	-	-
50	-	-
51	-	-
52	-	-
53	-	-
54	-	-
55	-	-
56	-	-
57	-	-
58	-	-
59	-	-
60	-	-
61	-	-
62	-	-
63	-	-
64	-	-
65	-	-
66	-	-
67	-	-
68	-	-
69	-	-
70	-	-
71	-	-
72	-	-
73	-	-
74	-	-
75	-	-
76	-	-
77	-	-
78	-	-
79	-	-
80	-	-
81	-	-
82	-	-
83	-	-
84	-	-
85	-	-
86	-	-
87	-	-
88	-	-
89	-	-
90	-	-
91	-	-
92	-	-
93	-	-
94	-	-
95	-	-
96	-	-
97	-	-
98	-	-
99	-	-
100	-	-
IC1402		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
9	-	-
10	-	-
11	-	-
12	-	-
13	-	-
14	-	-
15	-	-
16	-	-
17	-	-
18	-	-
19	-	-
20	-	-

MODE PIN NO.	REC	PLAY
21	-	-
22	-	-
23	-	-
24	-	-
25	-	-
26	-	-
27	-	-
28	-	-
Q1401		
E	-	-
C	-	-
B	-	-
Q1402		
E	-	-
C	-	-
B	-	-
Q1403		
E	-	-
C	-	-
B	-	-
Q1404		
E	-	-
C	-	-
B	-	-
Q1405		
E	-	-
C	-	-
B	-	-
Q1406		
E	-	-
C	-	-
B	-	-
Q1407		
E	-	-
C	-	-
B	-	-
Q1408		
E	-	-
C	-	-
B	-	-
Q1409		
E	-	-
C	-	-
B	-	-
Q1410		
E	-	-
C	-	-
B	-	-
Q1411		
E	-	-
C	-	-
B	-	-
Q1412		
E	-	-
C	-	-
B	-	-
Q1413		
E	-	-
C	-	-
B	-	-
Q1414		
E	-	-
C	-	-
B	-	-
Q1416		
E	-	-
C	-	-
B	-	-
Q1417		
E	-	-
C	-	-
B	-	-
Q1418		
E	-	-
C	-	-
B	-	-

<TERMINAL>

MODE PIN NO.	REC	PLAY
IC7101		
1	1.6	1.6
2	0	0
3	1.6	1.6
4	11.5	11.5
5	2.0	2.0
6	0	0
7	5.1	5.1
8	11.5	11.5
9	5.1	5.1
10	5.2	5.2
11	5.1	5.1
12	0	0
13	4.8	4.8
14	4.8	4.8
15	5.8	5.8
16	5.1	5.1
17	5.8	5.8
18	5.1	5.1
19	11.5	11.5
20	2.5	2.5
21	1.4	1.1
22	1.4	1.1
23	2.5	2.5
24	2.0	2.0
IC7102		
1	6.4	6.4
2	5.2	5.2
3	5.7	5.7
4	0	0
5	5.7	5.7
6	5.7	5.7
7	0	0
8	6.4	6.4
9	-	-
10	-	-
11	-	-
12	-	-
13	-	-
14	-	-
15	-	-
16	6.4	6.4
Q7102		
E	3.0	3.0
C	0	0
B	2.3	2.3
Q7103		
E	2.8	2.8
C	0	0
B	2.1	2.1
Q7104		
E	3.0	3.0
C	0	0
B	2.3	2.3
Q7107		
E	-	-
C	-	-
B	-	-
Q7108		
E	-	-
C	-	-
B	-	-
Q7109		
E	-	-
C	-	-
B	-	-
Q7110		
E	-	-
C	-	-
B	-	-
Q7111		
E	0	0
C	6.2	6.2
B	0	0
Q7112		
E	0.6	0.6

MODE PIN NO.	REC	PLAY
C	11.5	11.5
B	0	0
CN7101		
1	0.2	5.0
2	0	0
3	0	0
4	2.3	2.3
5	0	0
6	1.2	1.2
7	11.5	11.5
8	0.7	0.7
9	11.5	11.5
CN7102		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	4.8	4.8
8	4.7	4.7
9	5.1	5.1
10	5.1	5.1
CN7103		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	0	0
8	0	0
9	0	0
10	0	0
CN7104		
1	2.1	2.1
2	0	0
3	2.3	2.3
4	0	0
5	5.7	5.7
6	0	0
7	5.6	5.6
CN7105		
1	0	0
2	0	0
3	0	0
4	0	0

<DEMODULATOR>

MODE PIN NO.	REC	PLAY
IC6701		
1	1.6	1.6
2	2.5	2.5
3	0	0
4	0	0
5	4.9	4.9
6	4.9	4.9
7	4.7	4.7
8	4.8	4.8
9	2.2	2.2
10	2.3	2.3
11	0	4.5
12	1.8	0.7
13	1.6	0.7
14	1.6	0.7
15	1.7	0.7
16	4.5	4.5
17	0	0
18	1.8	0.6
19	0.5	0
20	4.6	4.6

MODE PIN NO.	REC	PLAY
21	0.5	0
22	0.5	0
23	0	0
24	0	0
25	0	0
26	0	0
27	0.5	0
28	0.5	0
29	0	0
30	3.7	3.7
31	3.7	3.7
32	0.6	0
33	8.3	8.3
34	7.4	7.4
35	0	0
36	3.6	3.6
37	0	0
38	0	0
39	0	0
40	0	0
41	0	0
42	0	0
43	2.5	2.5
44	3.7	3.7
45	0	0
46	4.9	4.9
47	1.5	1.5
48	1.5	1.5
49	0.6	0
50	0	0
51	-	-
52	-	-
Q6701		
E	8.4	8.4
C	11.5	11.5
B	9.0	9.0
Q6702		
E	2.9	2.9
C	8.4	8.4
B	3.6	3.6
Q6704		
E	0	0
C	0	0
B	3.3	3.3
Q6705		
E	0	0
C	0	0
B	3.3	3.3
CN6701		
1	4.7	4.7
2	4.7	4.7
3	0	0
4	4.9	4.9
5	11.5	11.5
6	0	0
7	0	0
8	0	0
9	2.4	2.4
10	0	0
11	4.4	4.4

<SWITCH/DISPLAY>
[HR-S8600EU]

MODE PIN NO.	REC	PLAY
IC7001		
1	4.9	4.9
2	2.2	2.2
3	0	0
4	2.2	2.2
5	4.9	4.9
6	4.9	4.9

MODE PIN NO.	REC	PLAY
7	4.9	4.9
8	4.9	4.9
9	4.9	4.9
10	4.9	4.9
11	4.9	4.9
12	4.7	4.7
13	0.8	0.8
14	4.9	5.0
15	4.5	4.5
16	-28.0	-27.9
17	-28.0	-27.9
18	-27.8	-27.6
19	-27.8	-27.7
20	4.7	4.6
21	-23.7	-23.5
22	-	-
23	-	-
24	-	-
25	-	-
26	-	-
27	-	-
28	-	-
29	-	-
30	-	-
31	-	-
32	-	-
33	-	-
34	-	-
35	-	-
36	-	-
37	-	-
38	-	-
39	-	-
40	-	-
41	-	-
42	-	-
43	-	-
44	4.9	4.9
IC7002		
1	5.1	5.1
2	5.1	5.1
3	0	0
CN7001		
1	-28.3	-28.1
2	-15.4	-15.2
3	-19.4	-19.1
4	0	0
5	0	0
6	5.1	5.1
7	4.7	4.7
8	0.8	0.8
9	5.0	5.0
10	4.5	4.5
11	5.0	5.0
12	5.0	5.0
13	0	0
14	5.1	5.1
FW7001		
1	4.9	4.9
2	0	0

<JOG>
[HR-S8600EU]

MODE PIN NO.	REC	PLAY
CN7005		
1	0	0
2	5.0	5.0
3	0	0
4	0	0
5	5.0	4.8
6	5.0	0

<JACK>
[HR-S8600EU]

MODE PIN NO.	REC	PLAY
CN7191		
3	0	0
4	0	0
5	0	0
6	0	0
7	0	0
CN7192		
1	0	0
2	0	0
3	0	0
4	0	0

<REC SAFETY>
[HR-S8600EU]

MODE PIN NO.	REC	PLAY
FW7001		
1	4.9	4.9
2	0	0

<SWITCH/DISPLAY>
[HR-S9600EU]

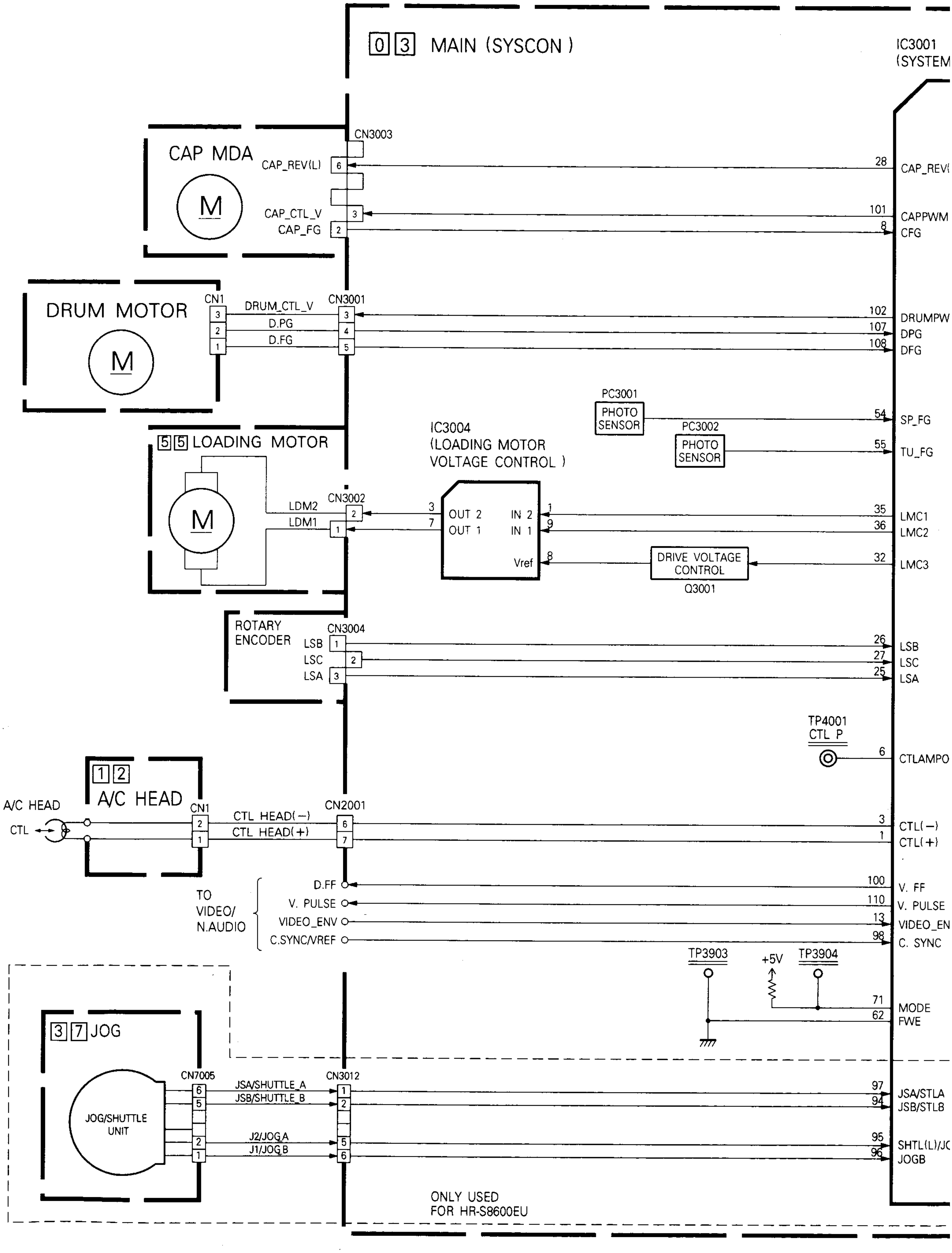
MODE PIN NO.	REC	PLAY
IC7001		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
9	-	-
10	-	-
11	-	-
12	-	-
13	-	-
14	-	-
15	-	-
16	-	-
17	-	-
18	-	-
19	-	-
20	-	-
21	-	-
22	-	-
23	-	-
24	-	-
25	-	-
26	-	-
27	-	-
28	-	-
29	-	-
30	-	-
31	-	-
32	-	-
33	-	-
34	-	-
35	-	-
36	-	-
37	-	-
38	-	-
39	-	-
40	-	-
41	-	-
42	-	-
43	-	-

MODE PIN NO.	REC	PLAY
44	-	-
IC7002		
1	-	-
2	-	-
3	-	-
Q7001		
E	-	-
C	-	-
B	-	-
Q7002		
E	-	-
C	-	-
B	-	-
Q7003		
E	-	-
C	-	-
B	-	-
CN7001		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
9	-	-
10	-	-
11	-	-
12	-	-
13	-	-
14	-	-
CN7002		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
CN7191		
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
CN7192		
1	-	-
2	-	-
3	-	-
4	-	-
FW7001		
1	4.9	4.9
2	0	0

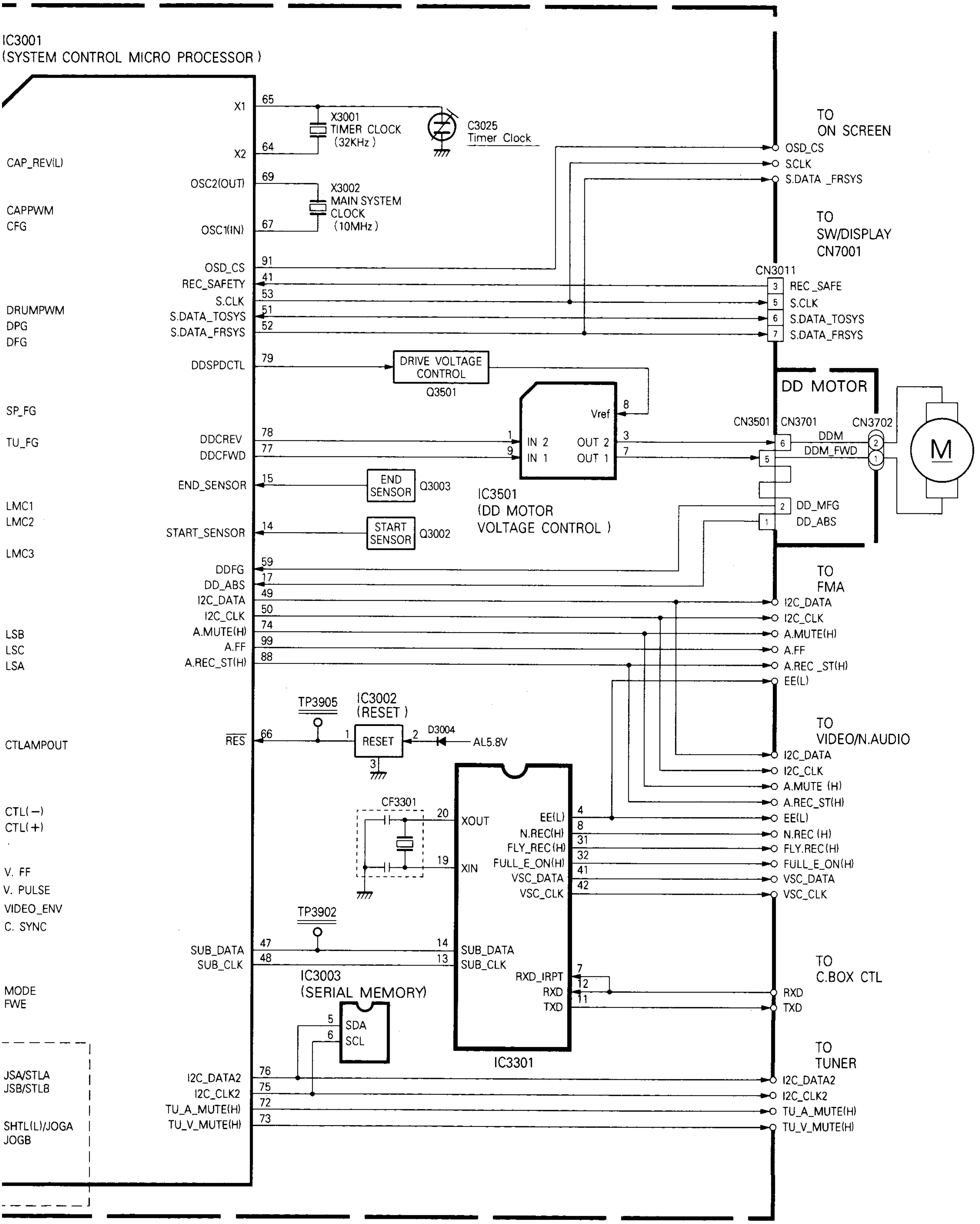
<REC SAFETY>
[HR-S9600EU]

MODE PIN NO.	REC	PLAY
FW7001		
1	4.9	4.9
2	0	0

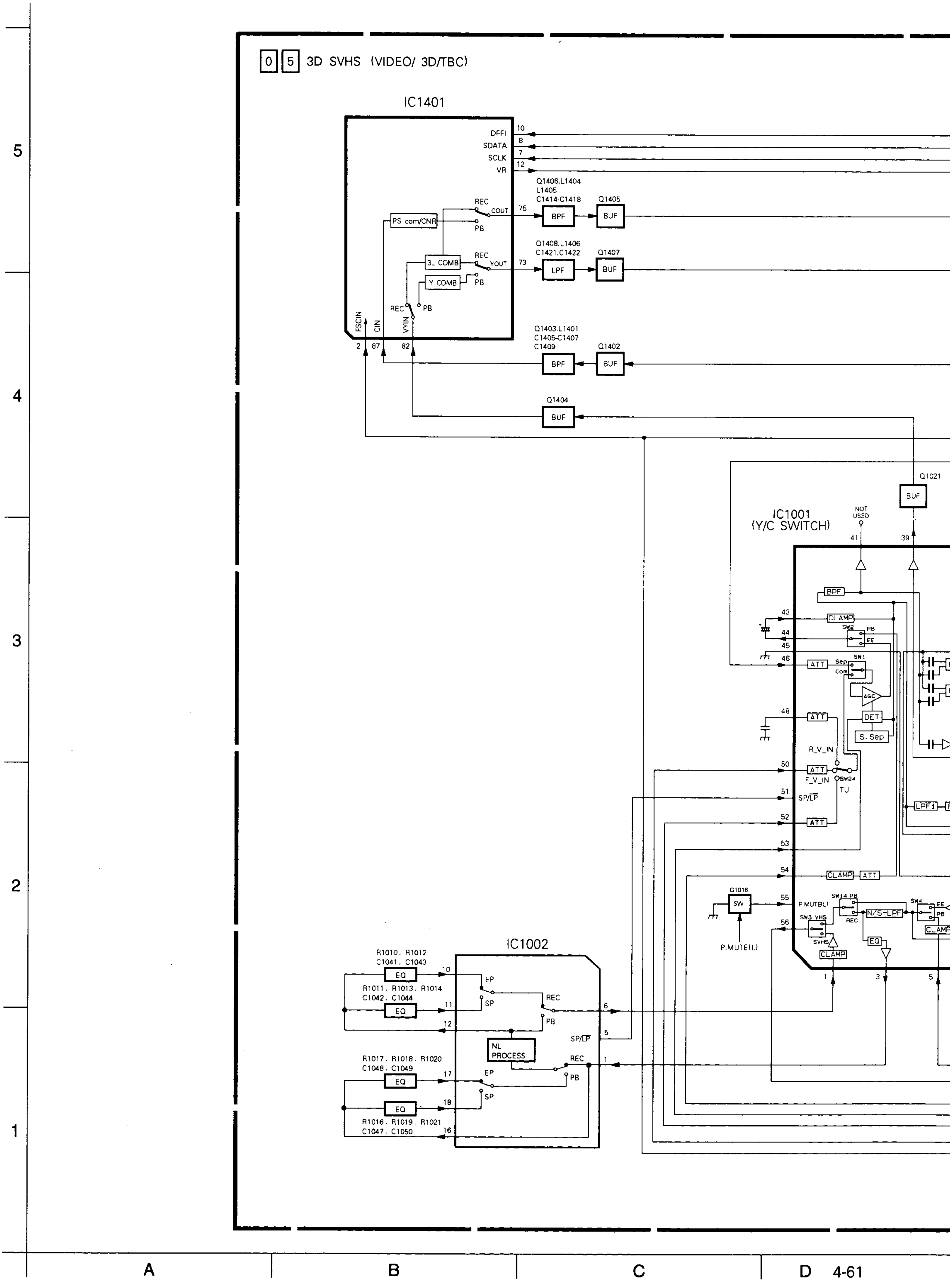
4.27 SYSTEM CONTROL BLOCK DIAGRAM

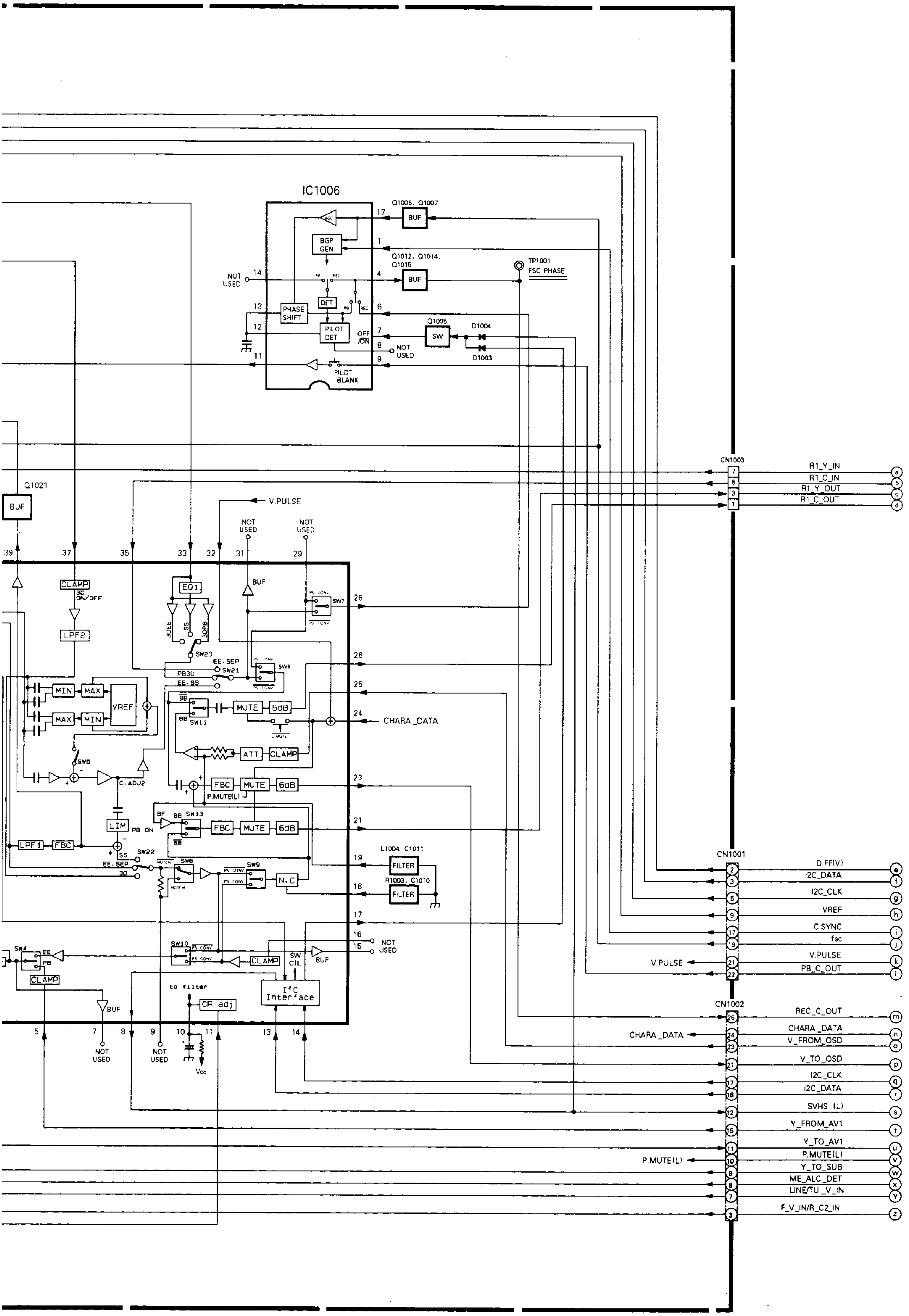


03 MAIN (SYSCON)
IC3001
(SYSTEM
CAP MDA
CN3003
CAP_REV(L)
CAP_CTL_V
CAP_FG
28 CAP_REV(
101 CAPPWM
8 CFG
DRUM MOTOR
CN1
DRUM_CTL_V
D.PG
D.FG
CN3001
102 DRUMPW
107 DPG
108 DFG
PC3001 PHOTO SENSOR
PC3002 PHOTO SENSOR
54 SP_FG
55 TU_FG
55 LOADING MOTOR
IC3004 (LOADING MOTOR VOLTAGE CONTROL)
LDM2
LDM1
CN3002
OUT 2
OUT 1
IN 2
IN 1
Vref
DRIVE VOLTAGE CONTROL
Q3001
35 LMC1
36 LMC2
32 LMC3
ROTARY ENCODER
CN3004
LSB
LSC
LSA
26 LSB
27 LSC
25 LSA
TP4001 CTL P
6 CTLAMPO
12 A/C HEAD
A/C HEAD
CTL
CN1
CN2001
CTL HEAD(−)
CTL HEAD(+)
3 CTL(−)
1 CTL(+)
TO VIDEO/ N.AUDIO
D.FF
V. PULSE
VIDEO_ENV
C.SYNC/VREF
100 V. FF
110 V. PULSE
13 VIDEO_EN
98 C. SYNC
TP3903
+5V
TP3904
71 MODE
62 FWE
37 JOG
JOG/SHUTTLE UNIT
CN7005
CN3012
JSA/SHUTTLE_A
JSB/SHUTTLE_B
J2/JOG A
J1/JOG B
97 JSA/STLA
94 JSB/STLB
95 SHTL(L)/JC
96 JOGB
ONLY USED FOR HR-S8600EU
5
4
3
2
1
A
B
C
D

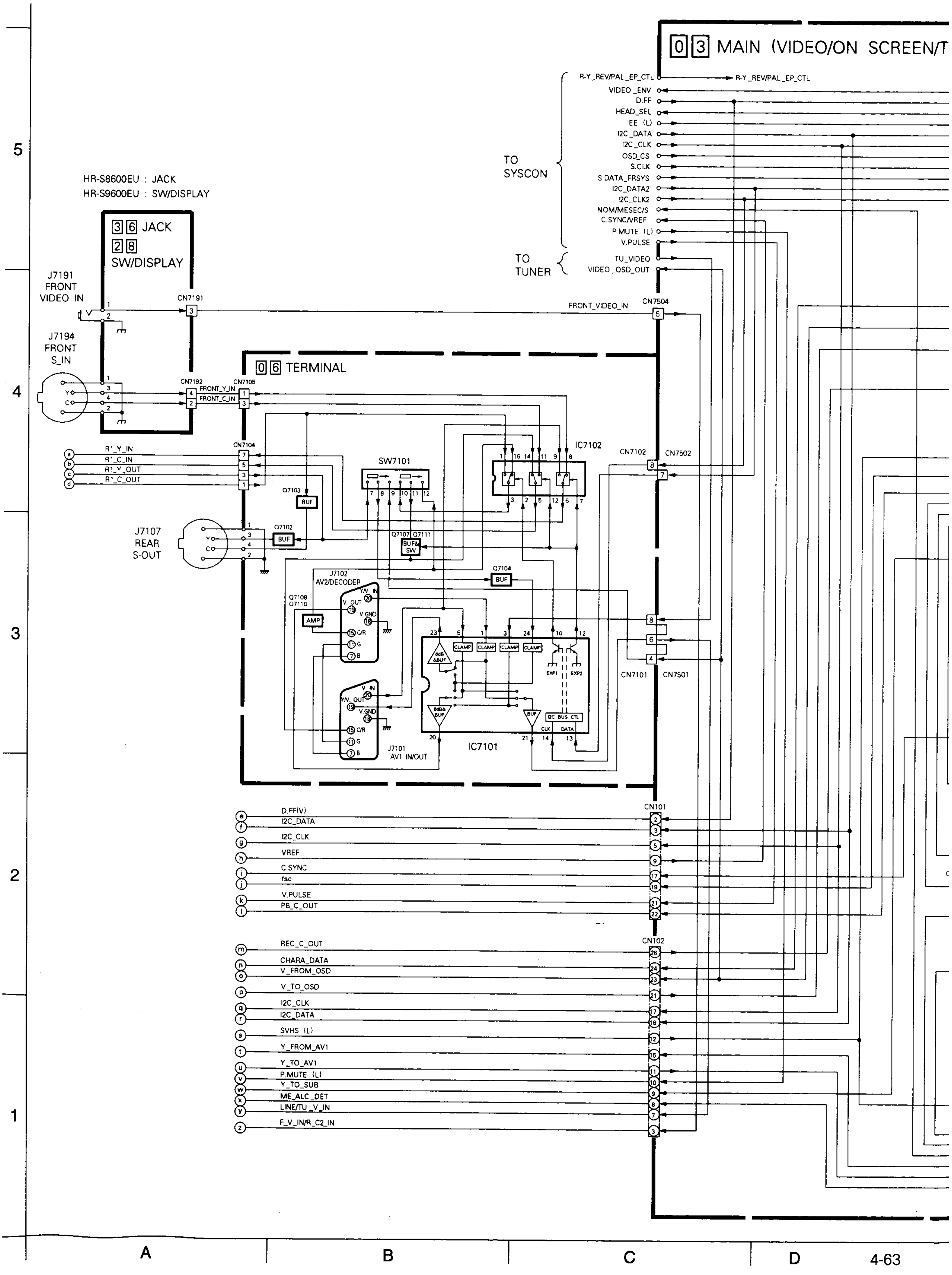

IC3001
(SYSTEM CONTROL MICRO PROCESSOR)
CAP_REV(L)
CAPPWM
CFG
DRUMPWM
DPG
DFG
SP_FG
TU_FG
LMC1
LMC2
LMC3
LSB
LSC
LSA
CTLAMPOUT
CTL(−)
CTL(+)
V. FF
V. PULSE
VIDEO_ENV
C. SYNC
MODE
FWE
JSA/STLA
JSB/STLB
SHTL(L)/JOGA
JOGB
X1
X2
OSC2(OUT)
OSC1(IN)
OSD_CS
REC_SAFETY
S.CLK
S.DATA_TOSYS
S.DATA_FRSYS
DDSPDCTL
DDCREV
DDCFWD
END_SENSOR
START_SENSOR
DDFG
DD_ABS
I2C_DATA
I2C_CLK
A.MUTE(H)
A.FF
A.REC_ST(H)
RES
SUB_DATA
SUB_CLK
I2C_DATA2
I2C_CLK2
TU_A_MUTE(H)
TU_V_MUTE(H)
65
64
69
67
91
41
53
51
52
79
78
77
15
14
59
17
49
50
74
99
88
66
47
48
76
75
72
73
X3001
TIMER CLOCK
(32KHz)
C3025
Timer Clock
X3002
MAIN SYSTEM
CLOCK
(10MHz)
DRIVE VOLTAGE
CONTROL
Q3501
Vref
8
1
IN 2
9
IN 1
OUT 2
3
OUT 1
7
IC3501
(DD MOTOR
VOLTAGE CONTROL)
END
SENSOR
Q3003
START
SENSOR
Q3002
TP3905
IC3002
(RESET)
1
RESET
2
D3004
AL5.8V
3
CF3301
20
XOUT
19
XIN
TP3902
14
SUB_DATA
13
SUB_CLK
IC3003
(SERIAL MEMORY)
5
SDA
6
SCL
EE(L)
4
N.REC(H)
8
FLY_REC(H)
31
FULL_E_ON(H)
32
VSC_DATA
41
VSC_CLK
42
RXD_IRPT
7
RXD
12
TXD
11
IC3301
TO
ON SCREEN
OSD_CS
S.CLK
S.DATA _FRSYS
TO
SW/DISPLAY
CN7001
CN3011
3
REC _SAFE
5
S.CLK
6
S.DATA_TOSYS
7
S.DATA_FRSYS
DD MOTOR
CN3501
CN3701
CN3702
6
DDM
2
5
DDM_FWD
1
M
2
DD_MFG
1
DD_ABS
TO
FMA
I2C_DATA
I2C_CLK
A.MUTE(H)
A.FF
A.REC _ST(H)
EE(L)
TO
VIDEO/N.AUDIO
I2C_DATA
I2C_CLK
A.MUTE (H)
A.REC_ST(H)
EE(L)
N.REC (H)
FLY.REC(H)
FULL_E_ON(H)
VSC_DATA
VSC_CLK
TO
C.BOX CTL
RXD
TXD
TO
TUNER
I2C_DATA2
I2C_CLK2
TU_A_MUTE(H)
TU_V_MUTE(H)

4.28 VIDEO BLOCK DIAGRAM


0 5 3D SVHS (VIDEO/ 3D/TBC)
IC1401
DFFI
SDATA
SCLK
VR
10
8
7
12
PS com/CNR
REC
COUT
PB
75
3L COMB
Y COMB
YOUT
73
FSCIN
CIN
VYIN
2
87
82
Q1406.L1404
L1405
C1414-C1418
Q1405
BPF
BUF
Q1408.L1406
C1421.C1422
Q1407
LPF
BUF
Q1403.L1401
C1405-C1407
C1409
Q1402
BPF
BUF
Q1404
BUF
Q1021
BUF
IC1001
(Y/C SWITCH)
NOT USED
41
39
BPF
CLAMP
43
44
45
46
SW2
PB
EE
ATT
Sep
Com
SW1
AGC
DET
S. Sep
48
ATT
R_V_IN
50
ATT
F_V_IN
SW24
TU
51
SP/LP
52
ATT
53
54
CLAMP
ATT
LPF1
Q1016
SW
55
P.MUTE(L)
SW14 PB
REC
N/S-LPF
SW4
EE
PB
CLAMP
56
SW3 VHS
SVHS
CLAMP
EQ
1
3
5
P.MUTE(L)
IC1002
R1010, R1012
C1041, C1043
EQ
10
EP
R1011, R1013, R1014
C1042, C1044
EQ
11
SP
12
REC
PB
6
SP/LP
5
NL PROCESS
REC
1
R1017, R1018, R1020
C1048, C1049
EQ
17
EP
PB
EQ
18
SP
R1016, R1019, R1021
C1047, C1050
16
5
4
3
2
1
A
B
C
D

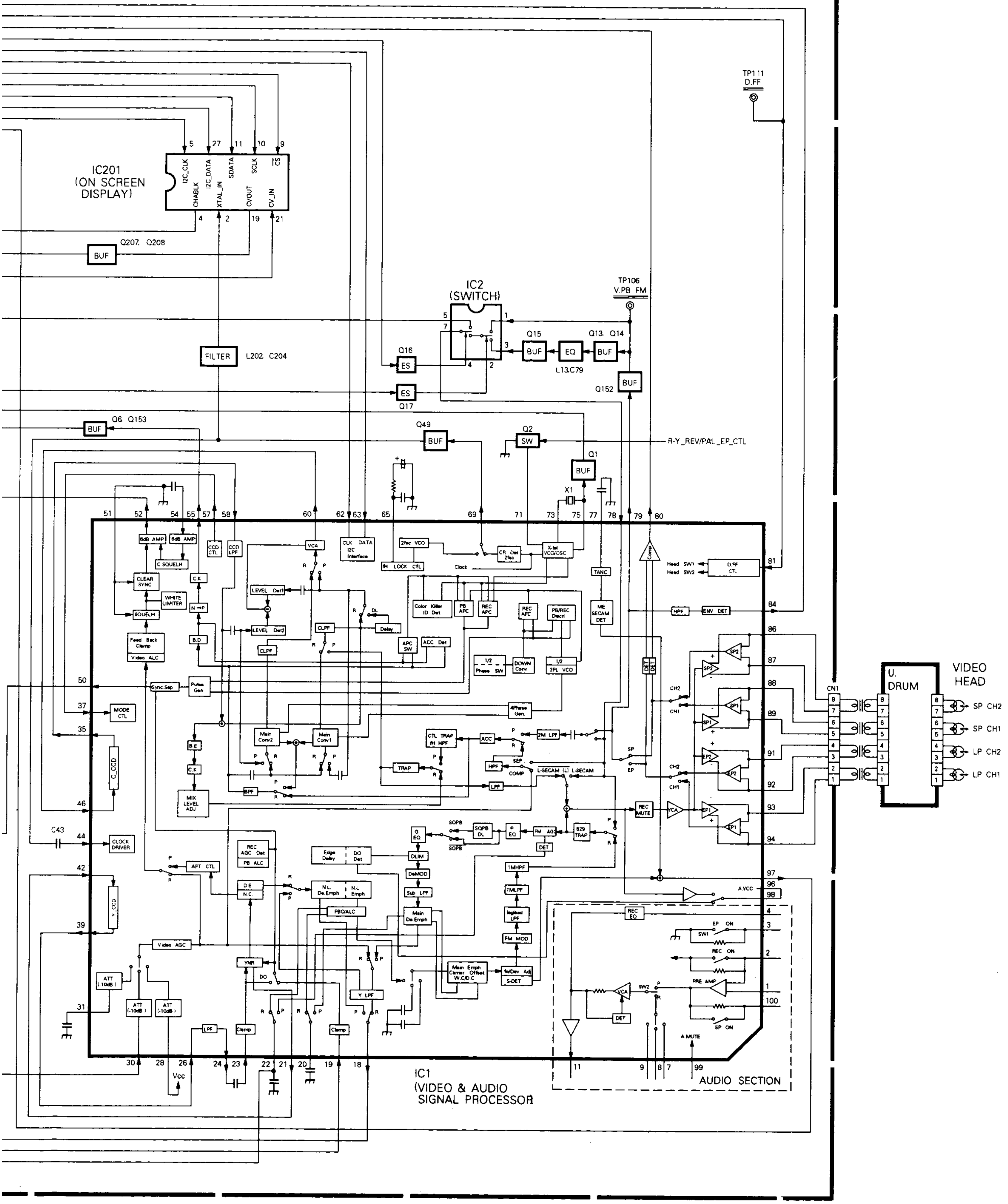

IC1006
Q1006, Q1007
BUF
17
ACC
BGP GEN
1
Q1012, Q1014, Q1015
4
TP1001
FSC PHASE
NOT USED
14
PB
REC
DET
13
PHASE SHIFT
6
12
PILOT DET
OFF /ON
7
Q1005
SW
D1004
D1003
8
NOT USED
11
9
PILOT BLANK
Q1021
BUF
CN1003
R1_Y_IN
R1_C_IN
R1_Y_OUT
R1_C_OUT
V.PULSE
NOT USED
NOT USED
39
37
35
33
32
31
29
CLAMP
3D ON/OFF
LPF2
EO1
3DEE
SS
3DPB
SW23
EE.SEP
SW21
PB3D
EE.SS
PS CONV
SW7
SW8
28
26
25
24
CHARA_DATA
MIN
MAX
VREF
MAX
MIN
BB
SW11
MUTE
6dB
C.MUTE
ATT
CLAMP
SW5
C.ADJ2
FBC
MUTE
6dB
P.MUTE(L)
23
LIM
PB ON
BF
BB
SW13
FBC
MUTE
6dB
21
LPF1
FBC
SS
SW22
EE.SEP
3D
NOTCH
SW6
SW9
PS CONV
N.C
19
L1004, C1011
FILTER
18
R1003, C1010
FILTER
17
16
15
NOT USED
SW4
EE
PB
CLAMP
SW10
CLAMP
SW CTL
BUF
I²C Interface
BUF
to filter
CR adj
5
7
8
9
10
11
13
14
NOT USED
NOT USED
Vcc
CN1001
D.FF(V)
I2C_DATA
I2C_CLK
VREF
C.SYNC
fsc
V.PULSE
V.PULSE
PB_C_OUT
CN1002
REC_C_OUT
CHARA_DATA
CHARA_DATA
V_FROM_OSD
V_TO_OSD
I2C_CLK
I2C_DATA
SVHS (L)
Y_FROM_AV1
Y_TO_AV1
P.MUTE(L)
P.MUTE(L)
Y_TO_SUB
ME_ALC_DET
LINE/TU_V_IN
F_V_IN/R_C2_IN
a
b
c
d
e
f
g
h
i
j
k
l
m
n
o
p
q
r
s
t
u
v
w
x
y
z

E F G H

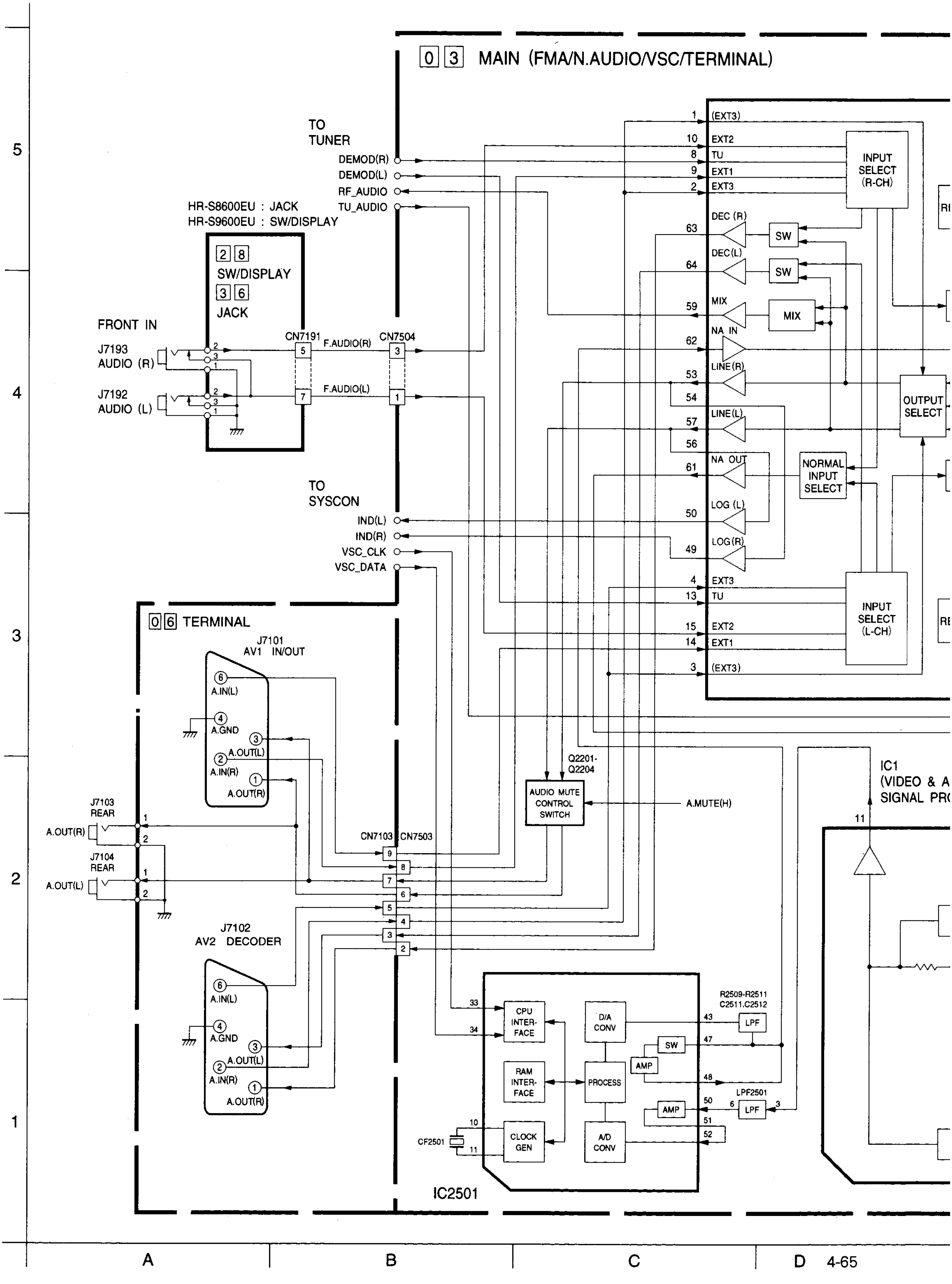


03 MAIN (VIDEO/ON SCREEN/T
HR-S8600EU : JACK
HR-S9600EU : SW/DISPLAY
36 JACK
28 SW/DISPLAY
J7191 FRONT VIDEO IN
CN7191
J7194 FRONT S_IN
CN7192
FRONT_Y_IN
FRONT_C_IN
CN7105
FRONT_VIDEO_IN
CN7504
06 TERMINAL
CN7104
R1_Y_IN
R1_C_IN
R1_Y_OUT
R1_C_OUT
SW7101
IC7102
CN7102
CN7502
Q7103 BUF
J7107 REAR S-OUT
Q7102 BUF
Q7107 Q7111 BUF& SW
Q7104 BUF
J7102 AV2/DECODER
Q7108 Q7110 AMP
Y/V_IN
V_OUT
V.GND
C/R
G
B
V_IN
Y/V_OUT
J7101 AV1 IN/OUT
IC7101
6dB &BUF
CLAMP
EXP1
EXP2
I2C BUS CTL
CLK
DATA
BUF
CN7101
CN7501
TO SYSCON
R-Y_REV/PAL_EP_CTL
VIDEO_ENV
D.FF
HEAD_SEL
EE (L)
I2C_DATA
I2C_CLK
OSD_CS
S.CLK
S.DATA_FRSYS
I2C_DATA2
I2C_CLK2
NOM/MESEC/S
C.SYNC/VREF
P.MUTE (L)
V.PULSE
TO TUNER
TU_VIDEO
VIDEO_OSD_OUT
CN101
D.FF(V)
I2C_DATA
I2C_CLK
VREF
C.SYNC
fsc
V.PULSE
PB_C_OUT
CN102
REC_C_OUT
CHARA_DATA
V_FROM_OSD
V_TO_OSD
I2C_CLK
I2C_DATA
SVHS (L)
Y_FROM_AV1
Y_TO_AV1
P.MUTE (L)
Y_TO_SUB
ME_ALC_DET
LINE/TU_V_IN
F_V_IN/R_C2_IN
a b c d e f g h i j k l m n o p q r s t u v w x y z
1 2 3 4 5
A B C D

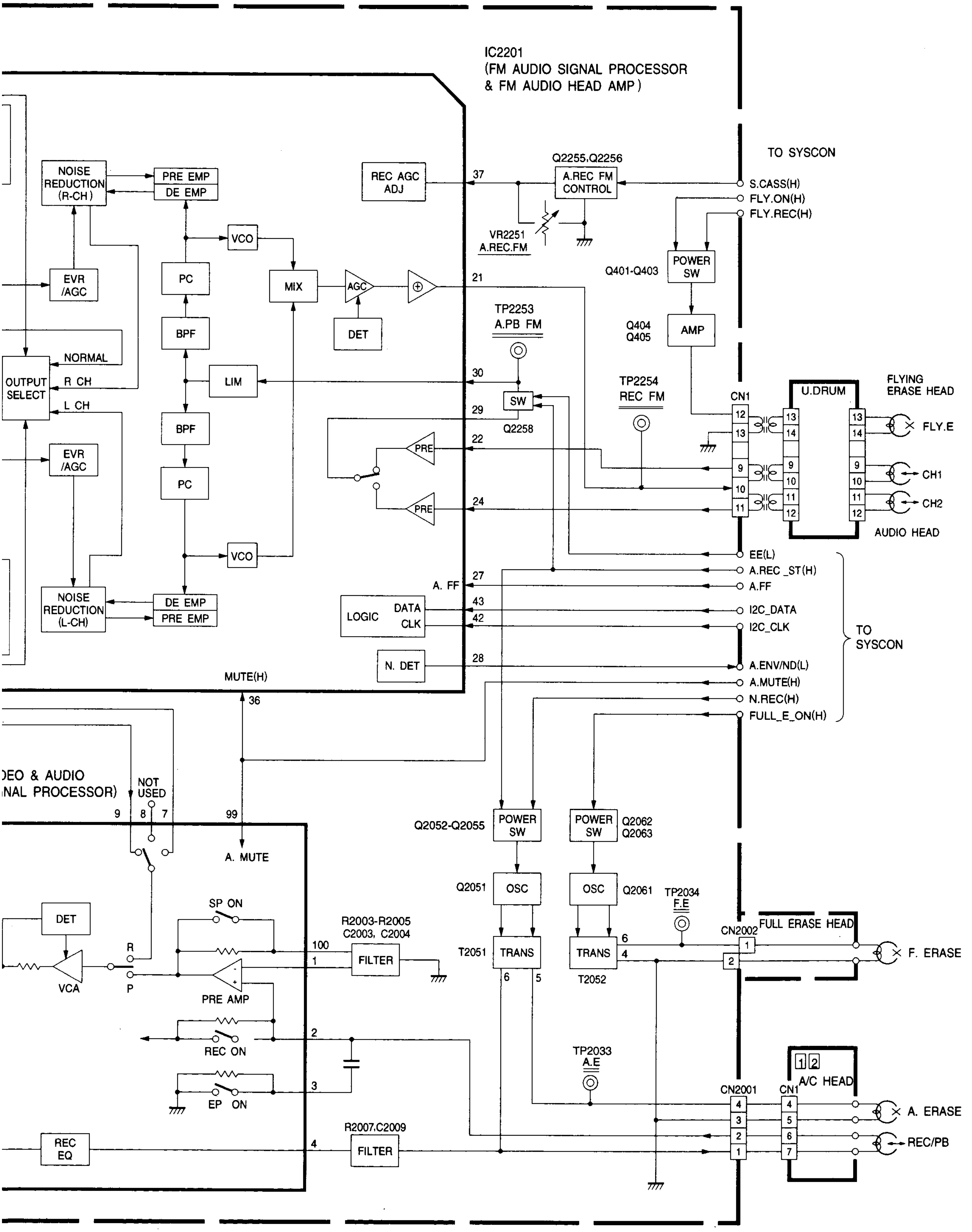
EEN/TERMINAL)


IC201
(ON SCREEN
DISPLAY)
I2C_CLK
I2C_DATA
SDATA
SCLK
CS
CHABLK
XTAL_IN
CVOUT
CV_IN
BUF
Q207, Q208
IC2
(SWITCH)
TP111
D.FF
TP106
V.PB_FM
Q15
Q13, Q14
BUF
EQ
L13,C79
Q152
Q16
ES
Q17
FILTER
L202, C204
Q6, Q153
Q49
Q2
SW
R-Y_REV/PAL_EP_CTL
Q1
X1
CLK DATA
I2C Interface
2fsc VCO
fH LOCK CTL
CR Det 2fsc
X-tal VCO/OSC
6dB AMP
C SQUELH
CCD CTL
CCD LPF
VCA
CLEAR SYNC
WHITE LIMITER
SQUELH
Feed Back Clamp
Video ALC
LEVEL Det1
LEVEL Det2
CLPF
Delay
APC SW
ACC Det
Color Killer ID Det
PB APC
REC APC
REC AFC
PB/REC Discri
ME SECAM DET
TANC
Comp
Head SW1
Head SW2
D.FF CTL
HPF
ENV DET
1/2 Phase SW
DOWN Conv
1/2 2FL VCO
Sync Sep
Pulse Gen
MODE CTL
C_CCD
4Phase Gen
Main Conv2
Main Conv1
CTL TRAP fH HPF
ACC
2M LPF
TRAP
HPF
SEP
COMP
L-SECAM (L)
L-SECAM
LPF
B.E
C.K
BPF
MIX LEVEL ADJ
REC MUTE
CLOCK DRIVER
C43
SQPB
SQPB DL
P EQ
FM AGC
829 TRAP
DET
G EQ
DLIM
Edge Delay
DO Det
REC AGC Det
PB ALC
APT CTL
D.E
N.C.
N.L De Emph
N.L Emph
DeMOD
Sub LPF
FBC/ALC
Main De Emph
1MHPF
7MLPF
Ingload LPF
FM MOD
Y_CCD
Video AGC
YNR
Main Emph Carrier Offset W.C/D.C
fo/Dev Adj
S-DET
Y LPF
ATT (-10dB)
Clamp
Vcc
A VCC
REC EQ
EP ON
SW1
REC ON
PRE AMP
VCA
SW2
DET
SP ON
A MUTE
AUDIO SECTION
IC1
(VIDEO & AUDIO
SIGNAL PROCESSOR
CH2
CH1
SP
EP
SP2
SP1
EP2
EP1
CN1
U.
DRUM
VIDEO
HEAD
SP CH2
SP CH1
LP CH2
LP CH1

4.29 AUDIO BLOCK DIAGRAM



03 MAIN (FMA/N.AUDIO/VSC/TERMINAL)
TO TUNER
DEMOD(R)
DEMOD(L)
RF_AUDIO
TU_AUDIO
HR-S8600EU : JACK
HR-S9600EU : SW/DISPLAY
28 SW/DISPLAY
36 JACK
FRONT IN
J7193 AUDIO (R)
J7192 AUDIO (L)
CN7191
CN7504
F.AUDIO(R)
F.AUDIO(L)
TO SYSCON
IND(L)
IND(R)
VSC_CLK
VSC_DATA
(EXT3)
EXT2
TU
EXT1
EXT3
INPUT SELECT (R-CH)
DEC (R)
DEC(L)
SW
SW
MIX
MIX
NA IN
LINE(R)
LINE(L)
OUTPUT SELECT
NA OUT
NORMAL INPUT SELECT
LOG (L)
LOG(R)
EXT3
TU
EXT2
EXT1
(EXT3)
INPUT SELECT (L-CH)
1
10
8
9
2
63
64
59
62
53
54
57
56
61
50
49
4
13
15
14
3
06 TERMINAL
J7101 AV1 IN/OUT
A.IN(L)
A.GND
A.OUT(L)
A.IN(R)
A.OUT(R)
J7103 REAR
A.OUT(R)
J7104 REAR
A.OUT(L)
J7102 AV2 DECODER
A.IN(L)
A.GND
A.OUT(L)
A.IN(R)
A.OUT(R)
CN7103
CN7503
Q2201-Q2204
AUDIO MUTE CONTROL SWITCH
A.MUTE(H)
IC1 (VIDEO & A
SIGNAL PR
11
CPU INTER-FACE
RAM INTER-FACE
CLOCK GEN
D/A CONV
PROCESS
A/D CONV
SW
AMP
AMP
LPF
LPF
R2509-R2511
C2511.C2512
LPF2501
CF2501
33
34
10
11
43
47
48
50
51
52
IC2501
A
B
C
D
1
2
3
4
5


IC2201
(FM AUDIO SIGNAL PROCESSOR
& FM AUDIO HEAD AMP)
NOISE REDUCTION (R-CH)
PRE EMP
DE EMP
REC AGC ADJ
37
Q2255,Q2256
A.REC FM CONTROL
TO SYSCON
S.CASS(H)
FLY.ON(H)
FLY.REC(H)
VCO
VR2251
A.REC.FM
EVR /AGC
PC
MIX
AGC
21
Q401-Q403
POWER SW
DET
TP2253
A.PB FM
BPF
Q404
Q405
AMP
NORMAL
OUTPUT SELECT
R CH
L CH
LIM
30
TP2254
REC FM
SW
29
Q2258
CN1
U.DRUM
FLYING ERASE HEAD
FLY.E
PRE
22
CH1
CH2
24
AUDIO HEAD
EE(L)
A.REC _ST(H)
A. FF
27
A.FF
43
DATA
LOGIC
CLK
42
I2C_DATA
I2C_CLK
TO SYSCON
NOISE REDUCTION (L-CH)
N. DET
28
A.ENV/ND(L)
MUTE(H)
A.MUTE(H)
36
N.REC(H)
FULL_E_ON(H)
)EO & AUDIO
NAL PROCESSOR)
NOT USED
9
8
7
99
Q2052-Q2055
POWER SW
POWER SW
Q2062
Q2063
A. MUTE
Q2051
OSC
OSC
Q2061
TP2034
F.E
SP ON
R2003-R2005
C2003, C2004
CN2002
FULL ERASE HEAD
DET
100
FILTER
T2051
TRANS
TRANS
6
4
F. ERASE
R
1
6
5
T2052
VCA
P
PRE AMP
2
REC ON
TP2033
A.E
1 2
A/C HEAD
3
CN2001
CN1
EP ON
A. ERASE
R2007,C2009
REC EQ
4
FILTER
REC/PB
12
13
14
9
10
11

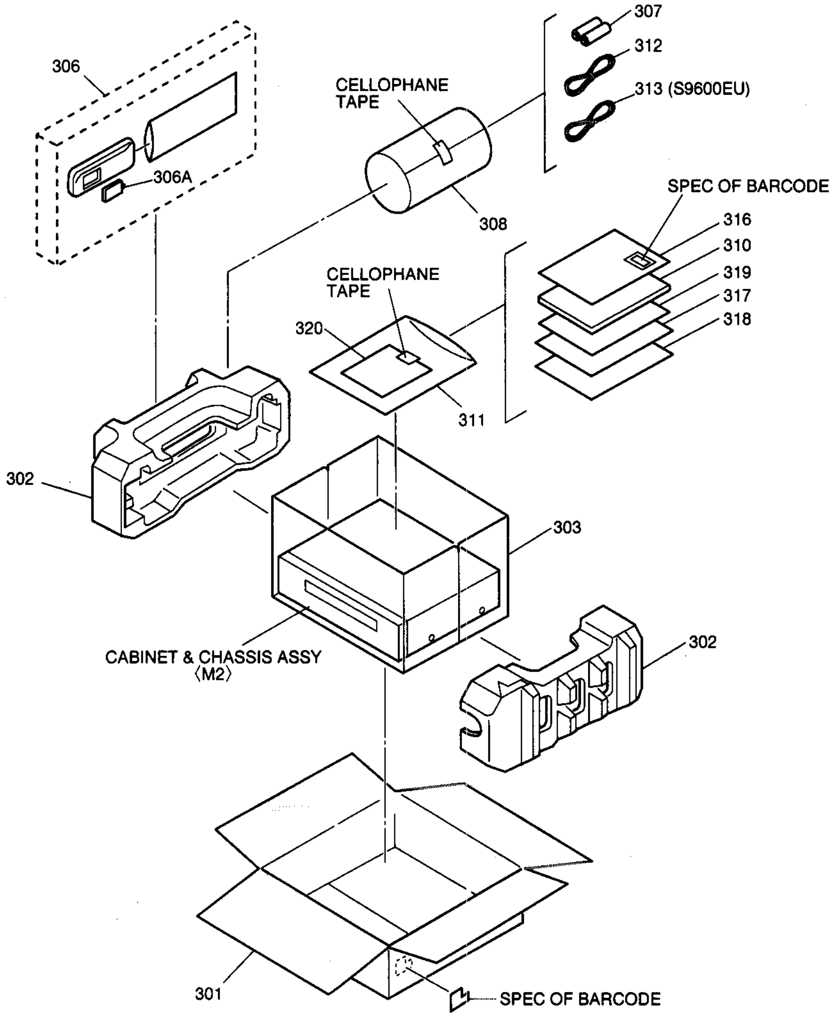
SECTION 5
PARTS LIST

SAFETY PRECAUTION

Parts identified by the ⚠ symbol are critical for safety. Replace only with specified part numbers.

5.1 PACKING AND ACCESSORY ASSEMBLY <M1>

The instruction manual to be provided with this product will differ according to the destination.



* *

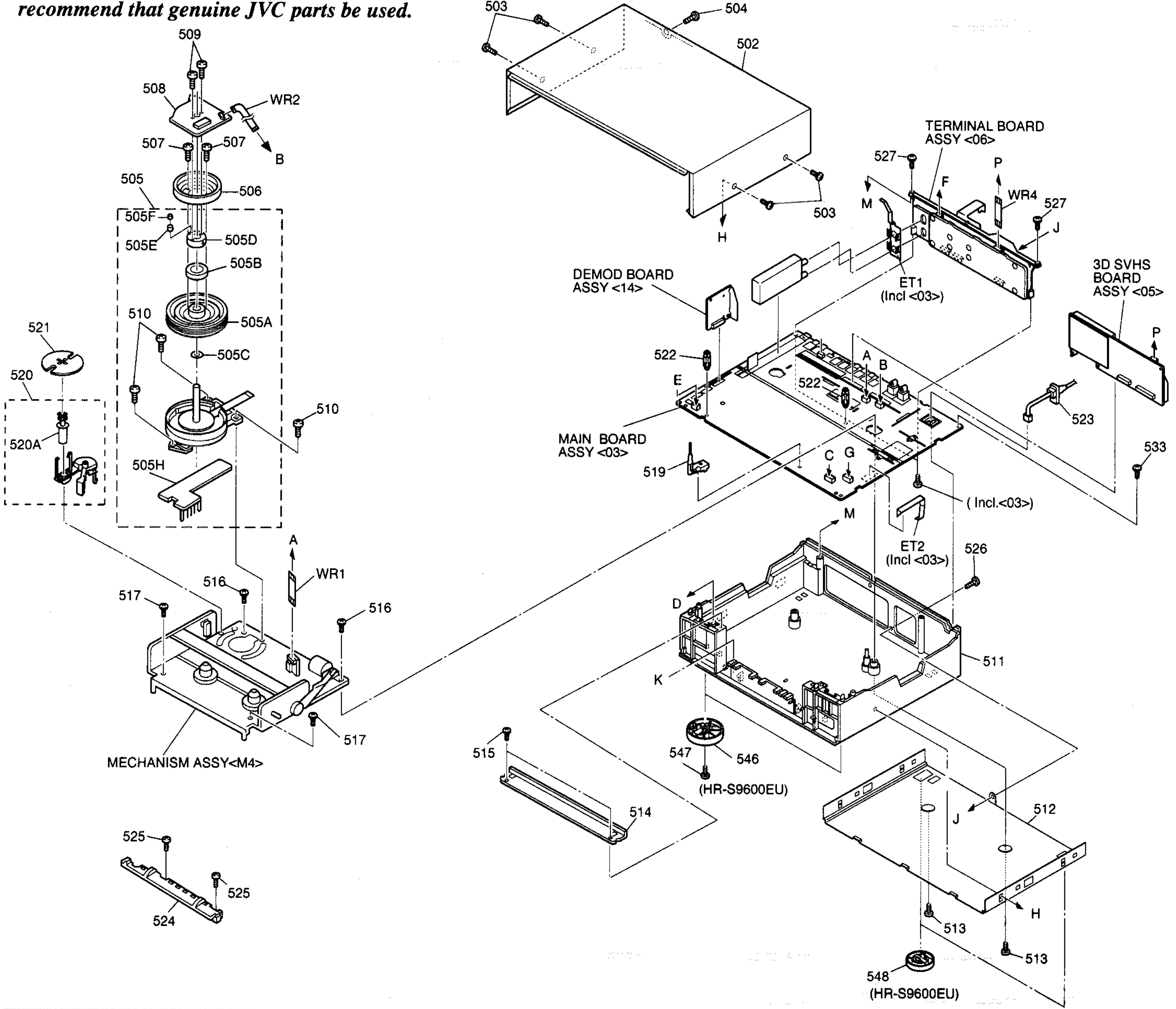
PACKING AND ACCESSORY ASSEMBLY <M1>

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION
		301	LP30600-001A	PACKING CASE,S8600EU
			LP30668-001A	PACKING CASE,S9600EU
		302	LP30667-001B	CUSHION ASSY,S9600EU
			LP30606-002B	CUSHION ASSY,S8600EU
		303	PQM30021-95	POLY BAG
		306	LP20667-002C	REMOTE CONTROLLER
		306A	LP40225-003A	COVER(BATTERY)
		307	-	BATTERY,X2("R6"TYPE)
		308	QPC02202230P	POLY BAG
	⚠	310	LPT0248-001A	INST.BOOK(EN),S8600EU
	⚠		LPT0248-002A	INST.BOOK(GE),S8600EU
	⚠		LPT0248-003A	INST.BOOK(FR),S8600EU
	⚠		LPT0248-004A	INST.BOOK(DU),S8600EU
	⚠		LPT0248-005A	INST.BOOK(SP),S8600EU
	⚠		LPT0248-006A	INST.BOOK(IT),S8600EU
	⚠		LPT0248-007A	INST.BOOK(DA),S8600EU
	⚠		LPT0248-008A	INST.BOOK(FI),S8600EU
	⚠		LPT0248-009A	INST.BOOK(SW),S8600EU
	⚠		LPT0248-010A	INST.BOOK(NO),S8600EU
	⚠		LPT0248-011A	INST.BOOK(PT),S8600EU
	⚠		LPT0248-012A	INST.BOOK(GR),S8600EU
	⚠		LPT0248-013A	INST.BOOK(CZ),S8600EU
	⚠		LPT0248-014A	INST.BOOK(PO),S8600EU
	⚠		LPT0248-015A	INST.BOOK(HU),S8600EU
	⚠		LPT0256-001A	INST.BOOK(EN),S9600EU
	⚠		LPT0256-002A	INST.BOOK(GE),S9600EU
	⚠		LPT0256-003A	INST.BOOK(FR),S9600EU
	⚠		LPT0256-004A	INST.BOOK(DU),S9600EU
	⚠		LPT0256-005A	INST.BOOK(SP),S9600EU
	⚠		LPT0256-006A	INST.BOOK(IT),S9600EU
	⚠		LPT0256-007A	INST.BOOK(DA),S9600EU
	⚠		LPT0256-008A	INST.BOOK(FI),S9600EU
	⚠		LPT0256-009A	INST.BOOK(SW),S9600EU
	⚠		LPT0256-010A	INST.BOOK(NO),S9600EU
	⚠		LPT0256-011A	INST.BOOK(PT),S9600EU
	⚠		LPT0256-012A	INST.BOOK(GR),S9600EU
	⚠		LPT0256-013A	INST.BOOK(CZ),S9600EU
	⚠		LPT0256-014A	INST.BOOK(PO),S9600EU
	⚠		LPT0256-015A	INST.BOOK(HU),S9600EU
	⚠		LPT0256-016A	INST.BOOK(RU),S9600EU
		311	QPC02503530P	POLY BAG
		312	PEAC0300-02	RF CABLE
		313	PEAC0358-120	S CABLE,S9600EU
		316	BT-54013-1	WARRANTY CARD
		317	LPT0248-016A	SHEET(CAUTION)
		318	PQ45146-167	SHEET(SPAIN),S8600EU
			PQ45146-176	SHEET(SPAIN),S9600EU
		319	LP40605-001A	SHEET
		320	LPT0248-018A	SHEET(ATTENSION)

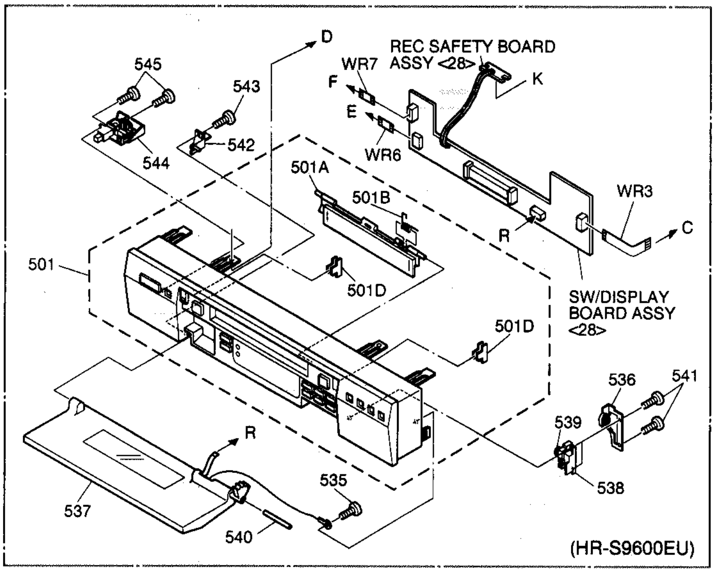
5.2 CABINET AND CHASSIS ASSEMBLY <M2>

BEWARE OF BOGUS PARTS

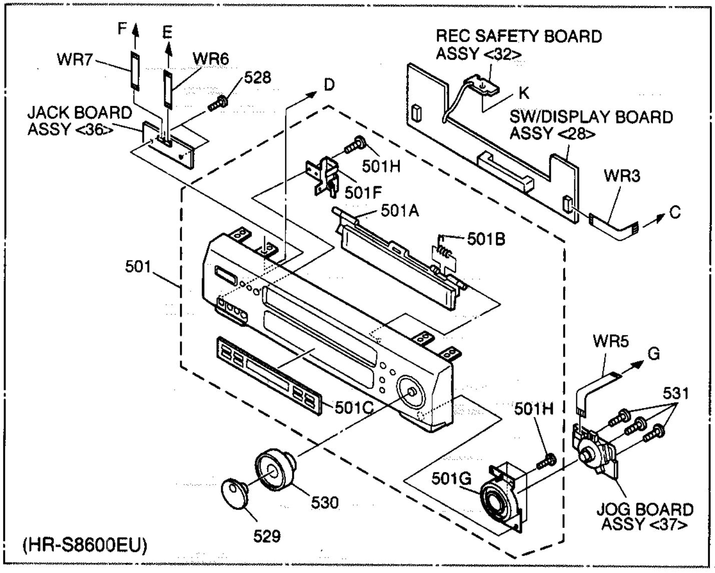
Parts that do not meet specifications may cause trouble in regard to safety and performance. We recommend that genuine JVC parts be used.



503
504
502
503
H
TERMINAL BOARD ASSY <06>
527
P
F
M
WR4
527
J
ET1 (Incl <03>)
3D SVHS BOARD ASSY <05>
P
DEMOD BOARD ASSY <14>
522
E
A
B
522
523
MAIN BOARD ASSY <03>
533
519
C
G
(Incl.<03>)
M
ET2 (Incl <03>)
526
D
511
K
547
546
(HR-S9600EU)
515
514
512
J
H
513
513
548
(HR-S9600EU)
509
508
WR2
507
507
B
505
506
505F
505E
505D
505B
510
505A
505C
521
520
510
520A
505H
A
WR1
516
517
516
517
MECHANISM ASSY<M4>
525
525
524



D
REC SAFETY BOARD ASSY <28>
545
WR7
K
543
F
E
542
544
WR6
501A
501B
WR3
C
R
501
501D
SW/DISPLAY BOARD ASSY <28>
501D
536
541
539
R
535
538
537
540
(HR-S9600EU)



F
E
WR7
WR6
528
REC SAFETY BOARD ASSY <32>
K
D
JACK BOARD ASSY <36>
SW/DISPLAY BOARD ASSY <28>
501H
501F
501A
WR3
C
501B
501
WR5
G
531
501C
501H
501G
530
529
JOG BOARD ASSY <37>
(HR-S8600EU)

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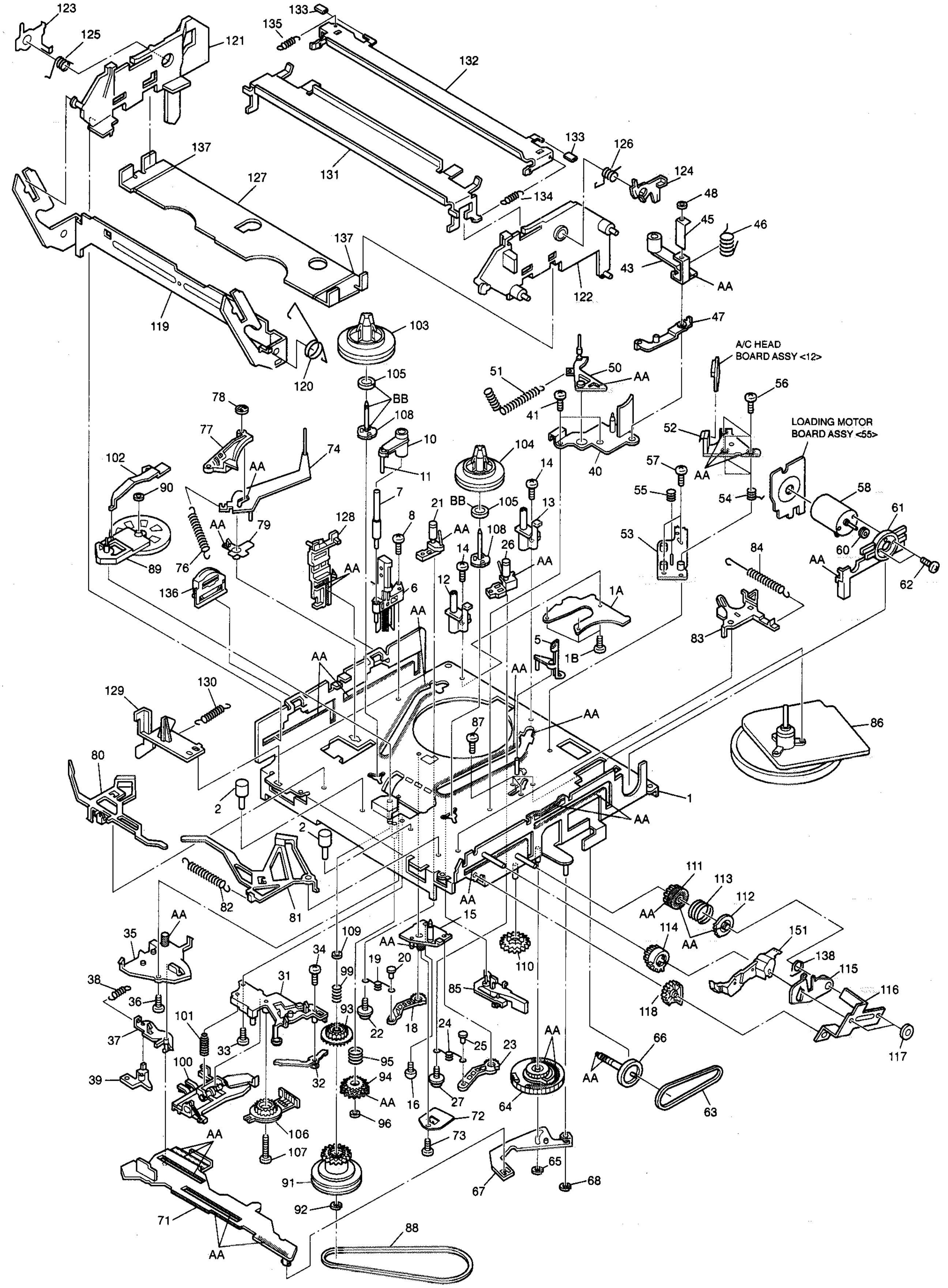
CABINET AND CHASSIS ASSEMBLY <M2>

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION
	⚠	501	LP10088-011C	FRONT PANEL ASSY,S8600EU
	⚠		LP10236-002D	FRONT PANEL ASSY,S9600EU
		501A	LP20661-002B	CASSETTE DOOR,S9600EU
			LP20716-003A	CASSETTE DOOR,S8600EU
		501B	PQ46448	TORSION SPRING
		501C	LP20250-008A	DISPLAY WINDOW,S8600EU
		501D	PEME0879	MAGNET ASSY,X2,S9600EU
		501F	LP40159-001B	BRACKET(DAMPER),S8600EU
		501G	LP20613-002A	ORNAMENT,S8600EU
		501H	SDSF2608Z	SCREW,X5,S8600EU
	⚠	502	PQ11922-26-5	TOP COVER
		503	QYTDSF3010R	SCREW,X4 TOP COVER(SIDE)
		504	QYTDSF3010M	SCREW,TOP COVER(REAR)
		505	LP20319-008A	DRUM SUB ASSY
		505A	LP20030-017A	UPPER DRUM ASSY
		505B	PDM4439	CAP
		505C	PDM4444-19-2	WASHER
		505D	LP40572-001A	COLLAR ASSY
		505E	LP40323-001A	CONTACT
		505F	LP30004-014A	COMPRESSION SPRING
		505H	LPA20002-01C	SENSOR BOARD ASSY
		506	PDZ0179-2-4	ROTOR ASSY
		507	QYSPSP3006Z	SCREW,X2
		508	PDZ0180-1-2	STATOR ASSY
		509	QYSPSPH2606Z	SCREW,X2
		510	QYTDST2610Z	SCREW,X3 DRUM
	⚠	511	LP10140-003D	BOTTOM CHASSIS,S9600EU
	⚠		LP10140-006C	BOTTOM CHASSIS,S8600EU
	⚠	512	PQ11921-1-3	BOTTOM COVER
		513	QYTDSF3010Z	SCREW,X2 BOTTOM COVER
		514	LP30312-001B	BRACKET(CHASSIS)
		515	QYTDSF3010Z	SCREW,X2 BRACKET CHASSIS
		516	QYTDSF4012Z	SCREW,X2 MECHA
		517	QYTDSF3010Z	SCREW,X2 MECHA
		519	LP40407-001A	KNOB ASSY
		520	LP40370-001E	ROLLER ARM ASSY
		520A	PDM4311A-1	ROLLER ASSY
		521	PQ45160	INERTIA PLATE
		522	LP40226-001A	PC SUPPORT,X2
	⚠	523	QMP4A10-170	POWER CORD
		524	LP30247-001B	FRONT BRACKET
		525	QYTDST2606Z	SCREW,X2 FRONT BRACKET
		526	QYTDSF3010M	SCREW,TERMINAL
		527	QYTPSFG3010Z	SCREW,X2 TERMINAL
		528	QYTDSF2608Z	SCREW,X2 S JACK,S8600EU
		529	LP30121-005A	KNOB(JOG),S8600EU
		530	LP30120-005A	KNOB SHUTTLE,S8600EU
		531	QYTDSF2608Z	SCREW,X3 JOG,S8600EU
		533	QYTDSF3010Z	SCREW,MAIN
		535	QYTDSF3010Z	SCREW,EARTH PLATE,S9600EU
		536	LP40582-001A	DAMPER ASSY,S9600EU
		537	LP20702-002A	MEMBRANE DOOR,S9600EU
		538	LP30570-001A	HOLDER(DAMPER),S9600EU
		539	QZW0012-002	DAMPER,S9600EU
		540	LP40500-001A	SHAFT,S9600EU
		541	QYTDSF3010Z	SCREW,X2,S9600EU
		542	LP40501-001A	HOLDER(DOOR),S9600EU
		543	QYTDSF3010Z	SCREW,HOLDER(DOOR),S9600EU
		544	QZW0031-002	DOOR OPEN UNIT,S9600EU
		545	QYTDSF3010Z	SCREW,X2,S9600EU
		546	PQ46617A-1	FOOT ASSY,X2,S9600EU
		547	QYTDSF3010Z	SCREW,FOOT(1),S9600EU
		548	PQ35504-2	FOOT(2),S9600EU
		WR1	QUQ112-0714CG	FFC WIRE,A/C HEAD CN2001
		WR2	QUQ212-0520CG	FFC WIRE,DRUM CN3001
		WR3	QUQ112-1414CG	FFC WIRE,DISPLSY CN3011
		WR4	QUQ112-0708CG	FFC WIRE,TERMINAL CN1003
		WR5	QUQ112-0616CG	FFC WIRE,JOG CN3012,S8600EU
		WR6	QUQ212-0516CG	FFC WIRE,JACK CN7504
		WR7	QUQ212-0446CG	FFC WIRE,S JACK CN7105

5.3 MECHANISM ASSEMBLY <M4>


123
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121
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137
126
124
127
131
134
48
45
46
137
43
AA
122
119
47
103
120
105
BB
108
A/C HEAD
BOARD ASSY <12>
51
50
AA
56
78
41
77
74
10
102
AA
11
104
52
LOADING MOTOR
BOARD ASSY <55>
40
57
AA
14
90
7
21
BB
105
13
55
54
58
61
79
AA
128
8
AA
108
53
84
AA
60
14
26
62
89
76
AA
12
AA
136
6
AA
1A
83
5
1B
AA
AA
129
130
87
AA
86
80
1
2
AA
2
82
81
AA
111
113
112
AA
15
114
AA
151
AA
35
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AA
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99
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31
110
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101
93
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118
37
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25
23
AA
66
33
100
95
117
39
32
94
AA
16
27
AA
64
63
96
72
106
AA
73
107
91
65
67
68
92
71
88
AA

Classifi-cation	Part No.	Symbol in drawing
Grease	KYODO-SH-P	AA
Oil	COSMO-HV56	BB

NOTE: The section marked in AA and BB indicate lubrication and greasing areas.

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MECHANISM ASSEMBLY <M4>

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION
1	LP20228-009D	MAIN DECK ASSY
1A	LP40275-003A	PLATE(SUPPLY)
1B	QYTDST2606Z	SCREW,X4
2	PQ46302-1-3	ADJUST PIN
5	LP30492-002B	GIDE POLE GUARD
6	NAH0001-001	FULL ERASE HEAD
7	LP40098-001B	GUIDE POLE(SUPPLY)
8	QYTDST2608Z	SCREW,FE HEAD
10	LP30459-002A	TENSION STUD BASE
11	LP40367-002A	TENSION STUD
12	LP40096-001B	UV CATCHER(SUPPLY)
13	LP40536-001A	UV CATCHER ASSY(TAKE UP)
14	QYTPST2606Z	SCREW,X2 UV CATCHER
15	LP30223-003C	LOADING ARM GEAR SHAFT
16	QYTDST2606Z	SCREW
18	LP30224-001A	LOADING ARM GEAR(SUPPLY)
19	LP40099-001A	TORSION ARM
20	LP40100-001A	PIN
21	LP40101-003D	POLE BASE ASSY(SUPPLY)
22	QYSPSTG2606Z	SCREW
23	LP40103-002B	LOADING ARM GEAR(TAKE UP)
24	LP40099-001A	TORSION ARM(TAKE UP)
25	LP40100-001A	PIN
26	LP40104-002C	POLE BASE ASSY(TAKE UP)
27	QYSPSTG2606Z	SCREW
31	LP20233-003G	ROTARY ENCODER GUIDE
32	LP30499-001C	BRAKE LEVER
33	QYTPST2606Z	SCREW
34	QYTPST2608Z	SCREW
35	LP30226-004B	CONTROL PLATE GUIDE
36	QYTPST2605Z	SCREW
37	LP30249-003B	TAKE UP LEVER
38	LP30003-006A	TENSION SPRING
39	LP40119-002A	T.UP HEAD
40	LP20234-004B	LID GUIDE
41	QYTDST2606Z	SCREW,X2
43	LP40105-001B	PINCH ROLLER ARM ASSY
45	LP40478-001A	P.R.SHEET2
46	LP40148-002A	TORSION SPRING
47	LP40149-001B	P.LEVER ASSY
48	LP30016-002A	SLIT WASHER
50	LP40106-002E	GUIDE ARM ASSY
51	LP40134-001C	TENSION SPRING
52	QAH0010-004	AC HEAD
53	LP30228-001A	HEAD BASE
54	LP30004-013A	COMPRESSION SPRING,X3
55	LP40236-001A	COMPRESSION SPRING
56	LP40213-002B	SPECIAL SCREW,X3
57	QYTDST2608Z	SCREW,X2 HEAD BASE
58	QAR0023-001	LOADING MOTOR
60	PQ43546-1-2	MOTOR PULLEY
61	LP30230-003A	MOTOR GUIDE
62	QYTPSP3003Z	SCREW,X2
63	LP30005-003A	BELT,LOADING MOTOR
64	LP20791-002B	CONTROL CAM
65	PQM30017-24	SLIT WASHER
66	LP40120-001A	WORM GEAR
67	LP40107-002A	LINK LEVER ASSY
68	PQM30017-24	SLIT WASHER
71	LP10201-002E	CONTROL PLATE
72	LP40379-001B	CTL BRACKET(1)
73	QYTDSF2608M	SCREW
74	LP40108-002A	TENSION ARM ASSY
76	LP30003-010A	TENSION SPRING
77	LP40109-003D	TENSION BRAKE ASSY
78	PQ46302-1-3	ADJUST PIN
79	LP30232-002A	T.ARM BEARING
80	LP40532-004A	MAIN BRAKE ASSY (SUPPLY)
81	LP40111-006A	MAIN BRAKE AY (TAKE-UP)
82	LP30003-002A	TENSION SPRING
83	LP40112-001F	SUB BRAKE ASSY(TAKE UP)
84	LP40357-002A	TENSION SPRING
85	LP40461-001A	CAPSTAN BRAKE ASSY
86	QAR0087-003	CAPSTAN MOTOR
87	QYTDSF2606M	SCREW,X3
88	LP30005-007A	BELT,CAPSTAN MOTOR
89	LP40114-008A	IDLER ARM ASSY
90	LP30016-001A	SLIT WASHER
91	LP40459-003D	CLUTCH UNIT 2
92	PQM30017-47	SLIT WASHER
93	LP40446-002B	CLUTCH GEAR 1
94	LP40442-001A	DIRECT GEAR
95	LP40483-002A	COMPRESSION SPRING
96	LP30016-001A	SLIT WASHER
99	LP40554-001A	COMPRESSION SPRING,C.GEAR1
100	LP40484-001F	CHANGE LEVER ASSY
101	LP40512-002B	COMPRESSION SPRING
102	LP30236-002B	IDLER LEVER
103	LP40420-001A	REEL DISK ASSY(SUPPLY)
104	LP40421-001A	REEL DISK ASSY(TAKE UP)
105	LP30017-015A	SPACER,X2 REEL DISK
106	QSW0554-003	ROTARY ENCODER
107	QYTPST2620Z	SCREW
108	LP40123-001A	REEL SHAFT,X2
109	LP30017-019A	SPACER,C.GEAR1
110	LP30237-002B	CASSETTE GEAR
111	LP30239-002F	LIMIT GEAR(1)
112	LP30240-002G	LIMIT GEAR(2)
113	LP40136-001E	TORSION SPRING
114	LP30242-002A	RELAY GEAR
115	LP30339-002E	OPENER GUIDE
116	LP40214-001B	C.H.BRACKET
117	PQM30017-47	SLIT WASHER,X2
118	LP30243-001D	DRIVE GEAR
119	LP20240-001C	DRIVE ARM
120	LP40137-001A	TORSION SPRING
121	LP10081-002L	SIDE HOLDER(L)
122	LP10082-002M	SIDE HOLDER(R)
123	LP30255-006A	LOCK LEVER(L)
124	LP30256-001H	LOCK LEVER(R)
125	LP40168-001A	TORSION SPRING(L)
126	LP40218-001B	TORSION SPRING(R)
127	LP30257-001F	CASSETTE HOLDER
128	LP30244-002G	GUIDE RAIL
129	LP30245-002E	REC SAFETY LEVER
130	LP30003-004A	TENSION SPRING
131	LP20578-001C	TOP GUIDE
132	LP30500-001C	HOLD PLATE
133	LP40450-003A	PAD,X2 HOLD PLATE
134	LP30003-025B	TENSION SPRING(TAKE UP)
135	LP30003-024A	TENSION SPRING(SUPPLY)
136	LP40481-003A	ROLLER CAM ASSY
137	LP30019-014A	PAD,X2 CASSETE HOLDER
138	LP40545-001A	TORSION SPRING,OPENER GUIDE
151	LP20324-002F	DOOR OPENER

5.4 ELECTRICAL PARTS LIST

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MAIN BOARD ASSEMBLY <03>

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION
PW1	LPA10048-53E	MAIN BOARD ASSY,S9600EU
	LPA10048-51E	MAIN BOARD ASSY,S8600EU
IC1	JCP8017-MSA	IC
IC2	MM1113XF	IC
IC201	LC74775-9750	IC
IC2201	AN3651FBP	IC
IC2501	LC85405JE	IC
IC3001	HD6432194A54F	IC
IC3002	S-80728AN-DR-X	IC
	or S-80828ANUP-W	IC
IC3003	M24C08-BN6	IC
	or AT24C08-10PC	IC
	or S-24C08ADP	IC
	or X24C08P	IC
	or 24LC08B/P	IC
IC3004	TA7291S	IC
IC3301	M38513M4C56FP	SOP IC(MPU)
IC3501	TA7291S	IC
IC3961	TC7W241FU	IC(DIGITAL)
IC3962	TC7W241FU	IC(DIGITAL)
IC5301	LA5634-N	IC
IC6080	BA15218F-XE	IC
Q1	2SB1218A/QR/-X	TRANSISTOR
	or 2SA1576A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
Q2	UN521E	TRANSISTOR
	or RN1309	TRANSISTOR
	or DTC144WU	TRANSISTOR
	or PDTC144WU	TRANSISTOR
Q6	2SB1218A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
	or 2SA1576A/QR/-X	TRANSISTOR
Q13	2SD1819A/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
	or 2SC4081/QRS/-X	TRANSISTOR
Q14	2SD1819A/QRS/-X	TRANSISTOR
	or 2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
Q15	2SB1218A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
	or 2SA1576A/QR/-X	TRANSISTOR
Q16	UN511E	TRANSISTOR
	or PDTA144WU	TRANSISTOR
	or RN2309	TRANSISTOR
	or DTA144WU	TRANSISTOR
Q17	UN521E	TRANSISTOR
	or PDTC144WU	TRANSISTOR
	or RN1309	TRANSISTOR
	or DTC144WU	TRANSISTOR
Q18	UN521E	TRANSISTOR
	or PDTC144WU	TRANSISTOR
	or RN1309	TRANSISTOR
	or DTC144WU	TRANSISTOR
Q47	2SK433/D/-W	JUNCTION FET
Q48	2SK433/D/-W	JUNCTION FET
Q49	2SC3936/BC/-X	TRANSISTOR
Q55	UN521E	TRANSISTOR
	or RN1309	TRANSISTOR
	or DTC144WU	TRANSISTOR
	or PDTC144WU	TRANSISTOR
Q152	2SB1218A/QR/-X	TRANSISTOR
	or 2SA1576A/QRS/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
Q153	2SD1819A/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
	or 2SC4081/QRS/-X	TRANSISTOR
Q207	2SB1218A/QR/-X	TRANSISTOR
	or 2SA1576A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
Q208	2SD1819A/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
	or 2SC4081/QRS/-X	TRANSISTOR
Q401	2SA1576A/QR/-X	TRANSISTOR
Q402	UN521E	TRANSISTOR
	or RN1309	TRANSISTOR
	or DTC144WU	TRANSISTOR
	or PDTC144WU	TRANSISTOR
Q403	UN521E	TRANSISTOR
	or RN1309	TRANSISTOR
	or DTC144WU	TRANSISTOR
	or PDTC144WU	TRANSISTOR
Q404	2SA1576A/QR/-X	TRANSISTOR
Q405	2SA1576A/QR/-X	TRANSISTOR
Q2001	2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
	or 2SD1819A/QRS/-X	TRANSISTOR
Q2002	2SC4081/QRS/-X	TRANSISTOR
	or 2SD1819A/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
Q2003	DTA144WU	TRANSISTOR
	or PDTA144WU	TRANSISTOR
	or RN2309	TRANSISTOR
	or UN511E	TRANSISTOR
Q2051	2SC4081/QRS/-X	TRANSISTOR
	or 2SD1819A/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
Q2052	2SA1576A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
	or 2SB1218A/QR/-X	TRANSISTOR
Q2053	DTC144WU	TRANSISTOR
	or PDTC144WU	TRANSISTOR
	or RN1309	TRANSISTOR
	or UN521E	TRANSISTOR
Q2054	2SA1576A/QR/-X	TRANSISTOR
	or 2SB1218A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
Q2055	DTC144WU	TRANSISTOR
	or PDTC144WU	TRANSISTOR
	or RN1309	TRANSISTOR
	or UN521E	TRANSISTOR
Q2061	2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
	or 2SD1819A/QRS/-X	TRANSISTOR
Q2062	2SA1576A/QR/-X	TRANSISTOR
	or 2SB1218A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
Q2063	DTC144WU	TRANSISTOR
	or PDTC144WU	TRANSISTOR

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
			or UN521E	TRANSISTOR	
			or RN1309	TRANSISTOR	
		Q2102	DTC144WU	TRANSISTOR	
			or PDTC144WU	TRANSISTOR	
			or UN521E	TRANSISTOR	
			or RN1309	TRANSISTOR	
		Q2151	2SC4081/QRS/-X	TRANSISTOR	
			or 2SD1819A/QRS/-X	TRANSISTOR	
			or 2PC4081/R/-X	TRANSISTOR	
		Q2201	2SC4081/QRS/-X	TRANSISTOR	
			or 2SD1819A/QRS/-X	TRANSISTOR	
			or 2PC4081/R/-X	TRANSISTOR	
		Q2202	2SC4081/QRS/-X	TRANSISTOR	
			or 2PC4081/R/-X	TRANSISTOR	
			or 2SD1819A/QRS/-X	TRANSISTOR	
		Q2203	DTA144WU	TRANSISTOR	
			or RN2309	TRANSISTOR	
			or UN511E	TRANSISTOR	
			or PDTA144WU	TRANSISTOR	
		Q2204	DTC144WU	TRANSISTOR	
			or RN1309	TRANSISTOR	
			or UN521E	TRANSISTOR	
			or PDTC144WU	TRANSISTOR	
		Q2253	DTC114EU	TRANSISTOR	
			or PDTC114EU	TRANSISTOR	
			or UN5211	TRANSISTOR	
			or RN1302	TRANSISTOR	
		Q2255	DTC144WU	TRANSISTOR	
			or PDTC144WU	TRANSISTOR	
			or RN1309	TRANSISTOR	
			or UN521E	TRANSISTOR	
		Q2256	DTC144WU	TRANSISTOR	
			or PDTC144WU	TRANSISTOR	
			or RN1309	TRANSISTOR	
			or UN521E	TRANSISTOR	
		Q2258	DTA144WU	TRANSISTOR	
			or PDTA144WU	TRANSISTOR	
			or RN2309	TRANSISTOR	
			or UN511E	TRANSISTOR	
		Q2501	2SD1819A/QRS/-X	TRANSISTOR	
			or 2SC4081/QRS/-X	TRANSISTOR	
			or 2PC4081/R/-X	TRANSISTOR	
		Q2502	UN521E	TRANSISTOR	
			or RN1309	TRANSISTOR	
			or DTC144WU	TRANSISTOR	
			or PDTC144WU	TRANSISTOR	
		Q3001	2SD1819A/QRS/-X	TRANSISTOR	
			or 2PC4081/R/-X	TRANSISTOR	
			or 2SC4081/QRS/-X	TRANSISTOR	
		Q3002	PTZ-NV16	PHOTO TRANSISTOR	
		Q3003	PTZ-NV16	PHOTO TRANSISTOR	
		Q3004	2SD1819A/QRS/-X	TRANSISTOR	
			or 2SC4081/QRS/-X	TRANSISTOR	
			or 2PC4081/R/-X	TRANSISTOR	
		Q3005	2SC1740S/QRS/-T	TRANSISTOR	
			or 2SC3199/YG/-T	TRANSISTOR	
		Q3007	UN521E	TRANSISTOR	
			or RN1309	TRANSISTOR	
			or DTC144WU	TRANSISTOR	
			or PDTC144WU	TRANSISTOR	
		Q3008	UN521E	TRANSISTOR	
			or RN1309	TRANSISTOR	
			or PDTC144WU	TRANSISTOR	
			or DTC144WU	TRANSISTOR	
		Q3501	2SD1819A/QRS/-X	TRANSISTOR	
			or 2SC4081/QRS/-X	TRANSISTOR	
			or 2PC4081/R/-X	TRANSISTOR	
		Q4001	UN5211	TRANSISTOR	
			or RN1302	TRANSISTOR	
			or DTC114EU	TRANSISTOR	
			or PDTC114EU	TRANSISTOR	
		Q5101	2SK2632-CB14	POWER MOS FET	
			or 2SK2632	POWER MOS FET	
			or 2SK2129-LT	POWER MOS FET	
			or 2SK2129	POWER MOS FET	
		Q5102	2SD2144S/UV/-T	TRANSISTOR	
		Q5301	2SB1256	TRANSISTOR	
		Q5302	DTC114TU	TRANSISTOR	
			or PDTC114TU	TRANSISTOR	
			or RN1311	TRANSISTOR	
			or UN5215	TRANSISTOR	
		Q5303	2SD2144S/UVW/-T	TRANSISTOR	
		Q5304	2SD1450/ST/-T	TRANSISTOR	
			or 2SD1302/ST/-T	TRANSISTOR	
		Q5305	UN5111	TRANSISTOR	
			or RN2302	TRANSISTOR	
			or DTA114EU	TRANSISTOR	
			or PDTA114EU	TRANSISTOR	
		Q5306	2SB1256	TRANSISTOR	
		Q5310	UN5211	TRANSISTOR	
			or RN1302	TRANSISTOR	
			or DTC114EU	TRANSISTOR	
			or PDTC114EU	TRANSISTOR	
		Q5311	2SA1576A/RS/-X	TRANSISTOR	
			or 2SB1218A/RS/-X	TRANSISTOR	
		Q5312	2SA1745/6-7/-X	TRANSISTOR	
		Q6030	2SB1218A/RS/-X	TRANSISTOR	
		Q6031	UN5211	TRANSISTOR	
			or RN1302	TRANSISTOR	
			or DTC114EU	TRANSISTOR	
			or PDTC114EU	TRANSISTOR	
		Q6032	UN5211	TRANSISTOR	
			or RN1302	TRANSISTOR	
			or DTC114EU	TRANSISTOR	
			or PDTC114EU	TRANSISTOR	
		D16	DA204U	DIODE	
		D17	DA204U	DIODE	
		D24	DA204U	DIODE	
		D201	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
		D202	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		D203	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		D2001	1SS133	DIODE	
			or 1N4148M	DIODE	
		D2201	11ES2	DIODE	
		D2501	1SS355	DIODE	
		D3001	LNB2301L01VI	LE DIODE	
		D3002	1SS133	DIODE	
		D3003	RD39ES/B3/-T2	ZENER DIODE	
			or MTZJ39C	ZENER DIODE	
		D3004	11E2-T5	DIODE	
		D3005	11E2-T5	DIODE	
		D3007	1SS133	DIODE	

#	⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
	D3008	1SS355	DIODE	
	D3961	RB721Q-40-T2	SB DIODE	
	D3965	RB721Q-40-T2	SB DIODE	
	D4001	1SS355	DIODE	
	D4002	1SS355	DIODE	
	D5001	S1WB(A)60F4102	BRIDGE DIODE	
		or S1WB(A)60F4072X	BRIDGE DIODE	
		or S1WB(A)60F4062X	BRIDGE DIODE	
	D5101	AU01	FR DIODE	
		or ERA18-04-T2	FR DIODE	
		or 1SR153-400-T2	FR DIODE	
		or 10ELS4	FR DIODE	
		or PG104RS	FR DIODE	
	D5102	AU01	FR DIODE	
		or PG104RS	FR DIODE	
		or 10ELS4	FR DIODE	
		or 1SR153-400-T2	FR DIODE	
		or ERA18-04-T2	FR DIODE	
	D5103	1SS133	DIODE	
	D5105	1SS133	DIODE	
	D5201	AK04	DIODE	
		or 1S4	SB DIODE	
		or 11EQS04	SB DIODE	
	D5202	FML-12S	FR DIODE	
		or MA644	FR DIODE	
		or YG901C2	FR DIODE	
		or FCF06A20	FR DIODE	
	D5206	FMB-24	BARRIER DIODE	
		or FSQ05A04B	SB DIODE	
		or MA7D49	SB DIODE	
		or YG801C04	SB DIODE	
	D5209	ERA18-02-T2	FR DIODE	
		or PG104RS	FR DIODE	
		or 10ELS2	FR DIODE	
		or 1SR153-400-T2	FR DIODE	
	D5210	AU01Z	FR DIODE	
		or ERA18-02-T2	FR DIODE	
		or 1SR153-400-T2	FR DIODE	
		or 10ELS2	FR DIODE	
		or PG104RS	FR DIODE	
	D5211	AU01Z	FR DIODE	
		or ERA18-02-T2	FR DIODE	
		or 10ELS2	FR DIODE	
		or 1SR153-400-T2	FR DIODE	
		or PG104RS	FR DIODE	
	D5301	MTZJ15A	ZENER DIODE	
		or RD15ES/B1/-T2	ZENER DIODE	
	D5302	MTZJ6.8A	ZENER DIODE	
		or RD6.8ES/B1/-T2	ZENER DIODE	
	D5303	MTZJ27C	ZENER DIODE	
		or RD27ES/B3/-T2	ZENER DIODE	
	D5304	1SS133	DIODE	
	D5305	11E2-T5	DIODE	
	D5307	1SS133	DIODE	
	D5308	1SS133	DIODE	
	D5309	1SS133	DIODE	
	D5311	RD5.1ES/B3/-T2	ZENER DIODE	
		or MTZJ5.1C	ZENER DIODE	
	D6002	HZ30-2L-T2	ZENER DIODE	
		or HZ30-2LTD	Z DIODE (M)	
	R1	NRSA02J-331X	MG RESISTOR	330Ω,1/10W
	R2	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
	R3	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
	R4	NRSA02J-822X	MG RESISTOR	8.2kΩ,1/10W
	R5	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
	R6	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
	R7	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
	R10	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R11	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R13	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
	R15	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R16	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R24	NRVA02D-622X	CMF RESISTOR	6.2kΩ,1/10W
	R25	NRVA02D-152X	CMF RESISTOR	1.5kΩ,1/10W
	R46	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
	R47	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
	R48	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
	R49	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
	R50	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R52	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R54	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R55	NRSA02J-122X	MG RESISTOR	1.2kΩ,1/10W
	R56	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R57	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R60	NRSA02J-563X	MG RESISTOR	56kΩ,1/10W
	R62	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R63	NDC21HJ-120X	CAPACITOR	12pF,50V
	R64	NDC21HJ-220X	CAPACITOR	22pF,50V
	R68	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
	R69	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
	R71	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
	R73	NRSA02J-683X	MG RESISTOR	68kΩ,1/10W
	R94	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
	R95	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R96	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R137	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R143	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R158	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R168	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R169	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R170	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
	R171	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
	R181	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R195	NRSA02J-684X	MG RESISTOR	680kΩ,1/10W
	R197	NRSA02J-106X	MG RESISTOR	10MΩ,1/10W
	R201	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R202	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
	R208	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R209	NRSA02J-512X	MG RESISTOR	5.1kΩ,1/10W
	R210	NRSA02J-182X	MG RESISTOR	1.8kΩ,1/10W
	R211	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
	R212	NRSA02J-331X	MG RESISTOR	330Ω,1/10W
	R213	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R216	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
	R218	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R224	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
	R225	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
	R401	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
	R402	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
	R403	NRSA02J-393X	MG RESISTOR	39kΩ,1/10W
	R404	NRSA02J-683X	MG RESISTOR	68kΩ,1/10W
	R405	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		R408	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
		R409	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
		R410	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
		R2001	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R2002	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R2003	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
		R2004	NRSA02J-224X	MG RESISTOR	220kΩ,1/10W
		R2005	NRSA02J-271X	MG RESISTOR	270Ω,1/10W
		R2006	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
		R2007	NRSA02J-183X	MG RESISTOR	18kΩ,1/10W
		R2009	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R2013	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
		R2014	NRSA02J-153X	MG RESISTOR	15kΩ,1/10W
		R2018	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R2019	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R2020	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R2053	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R2054	NRSA02J-153X	MG RESISTOR	15kΩ,1/10W
		R2055	NRSA02J-3R3X	MG RESISTOR	3.3Ω,1/10W
		R2056	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R2057	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R2058	NRSA02J-183X	MG RESISTOR	18kΩ,1/10W
		R2059	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R2060	NRSA02J-183X	MG RESISTOR	18kΩ,1/10W
		R2061	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
		R2062	NRSA02J-3R3X	MG RESISTOR	3.3Ω,1/10W
		R2063	QRE141J-151Y	RESISTOR	150Ω,1/4W
		R2064	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R2065	NRSA02J-183X	MG RESISTOR	18kΩ,1/10W
		R2105	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R2151	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R2152	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R2201	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R2202	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R2203	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
		R2204	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
		R2206	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
		R2207	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R2208	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R2209	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
		R2210	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R2211	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R2212	NRSA02J-104X	MG RESISTOR	100kΩ,1/10W
		R2213	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
		R2214	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
		R2215	NRSA02J-104X	MG RESISTOR	100kΩ,1/10W
		R2216	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
		R2217	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
		R2218	NRSA02J-560X	MG RESISTOR	56Ω,1/10W
		R2219	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
		R2220	NRSA02J-272X	MG RESISTOR	2.7kΩ,1/10W
		R2221	NRSA02J-272X	MG RESISTOR	2.7kΩ,1/10W
		R2222	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
		R2223	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
		R2224	NRSA02J-272X	MG RESISTOR	2.7kΩ,1/10W
		R2225	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R2226	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
		R2227	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R2228	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
		R2229	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
		R2230	NRSA02J-272X	MG RESISTOR	2.7kΩ,1/10W
		R2231	NRSA02J-272X	MG RESISTOR	2.7kΩ,1/10W
		R2236	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R2237	NRSA02J-511X	MG RESISTOR	510Ω,1/10W
		R2239	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R2240	NRSA02J-511X	MG RESISTOR	510Ω,1/10W
		R2241	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R2242	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R2243	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R2244	NRSA02J-560X	MG RESISTOR	56Ω,1/10W
		R2251	NRSA02J-303X	MG RESISTOR	30kΩ,1/10W
		R2252	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
		R2254	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R2255	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R2501	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R2502	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R2503	NRSA02J-104X	MG RESISTOR	100kΩ,1/10W
		R2504	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R2505	NRSA02J-105X	MG RESISTOR	1MΩ,1/10W
		R2506	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R2507	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R2508	NRSA02J-333X	MG RESISTOR	33kΩ,1/10W
		R2509	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R2510	NRSA02J-104X	MG RESISTOR	100kΩ,1/10W
		R2511	NRSA02J-154X	MG RESISTOR	150kΩ,1/10W
		R2512	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R2513	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R2514	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R2515	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R2519	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R2520	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R2521	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R2522	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
		R3011	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3012	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3013	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3014	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3015	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3016	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3017	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3018	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
		R3019	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3020	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3021	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3022	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3025	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3026	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3027	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3029	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3030	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3031	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3033	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3034	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3035	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3036	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3037	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3038	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
		R3039	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3040	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3041	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3042	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3044	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
R3046	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3047	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
R3048	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
R3049	NRSA02J-331X	MG RESISTOR	330Ω,1/10W
R3050	NRSA02J-331X	MG RESISTOR	330Ω,1/10W
R3051	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
R3052	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
R3053	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
R3054	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3055	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3056	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3057	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3058	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3059	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3060	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
R3061	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
R3062	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3063	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3066	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3069	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R3071	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3072	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3073	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3074	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
R3075	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
R3076	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
R3077	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3078	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3079	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R3080	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3081	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3083	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3087	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3088	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
R3089	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3090	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3091	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3092	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3093	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3094	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3095	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3096	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3097	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3103	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3104	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3105	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3106	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3201	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3202	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3203	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3204	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
R3205	QRE141J-181Y	RESISTOR	180Ω,1/4W
R3206	NRSA02J-183X	MG RESISTOR	18kΩ,1/10W
R3207	NRSA02J-183X	MG RESISTOR	18kΩ,1/10W
R3208	QRE141J-181Y	RESISTOR	180Ω,1/4W
R3209	QRE141J-273Y	RESISTOR	27kΩ,1/4W
R3210	NRSA02J-181X	MG RESISTOR	180Ω,1/10W
R3211	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
R3212	QRE141J-474Y	RESISTOR	470kΩ,1/4W
R3213	NRSA02J-334X	MG RESISTOR	330kΩ,1/10W
R3214	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3215	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3216	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3217	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
R3218	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3219	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3220	NRSA02J-104X	MG RESISTOR	100kΩ,1/10W
R3222	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3223	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3224	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3225	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3229	NRSA02J-105X	MG RESISTOR	1MΩ,1/10W
R3230	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3231	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3233	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3234	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3235	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
R3236	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
R3237	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3238	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3239	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3240	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3241	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3242	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3244	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3251	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3304	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3305	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3306	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3307	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3308	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3309	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3311	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3312	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3313	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
R3314	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
R3316	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3317	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3318	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3319	NRSA02J-105X	MG RESISTOR	1MΩ,1/10W
R3323	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R3324	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3325	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3327	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3328	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3329	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3330	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3331	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3332	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3333	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3335	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3337	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3338	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3339	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3340	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3341	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3342	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3353	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3354	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3501	NRSA02J-153X	MG RESISTOR	15kΩ,1/10W
R3502	NRSA02J-272X	MG RESISTOR	2.7kΩ,1/10W
R3503	NRSA02J-153X	MG RESISTOR	15kΩ,1/10W

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		R3504	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
		R3505	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
		R3506	NRSA02J-123X	MG RESISTOR	12kΩ,1/10W
		R3961	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3962	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R4001	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R4003	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
		R4004	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
		R4005	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
		R4006	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R4007	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R4008	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R4009	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R4010	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R4011	NRSA02J-392X	MG RESISTOR	3.9kΩ,1/10W
		R4012	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R4013	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R4014	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R4015	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
		R4016	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R4017	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R4018	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R4019	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R4020	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R4021	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R5101	QRE141J-334Y	RESISTOR	330kΩ,1/4W
		R5102	QRE141J-334Y	RESISTOR	330kΩ,1/4W
		R5103	QRE141J-683Y	RESISTOR	68kΩ,1/4W
		R5104	QRG029J-154G	OMF RESISTOR	150kΩ,2W
		R5106	QRT01DJ-R39X	MF RESISTOR	0.39Ω,1W
		R5107	QRE121J-331Y	RESISTOR	330Ω,1/2W
		R5108	QRE141J-222Y	RESISTOR	2.2kΩ,1/4W
		R5109	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
		R5110	NRSA02J-224X	MG RESISTOR	220kΩ,1/10W
		R5111	NRSA02J-821X	MG RESISTOR	820Ω,1/10W
		R5112	NRSA02J-821X	MG RESISTOR	820Ω,1/10W
		R5301	QRE141J-1R8Y	RESISTOR	1.8Ω,1/4W
		R5302	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R5303	NRSA02J-122X	MG RESISTOR	1.2kΩ,1/10W
	⚠	R5304	QRZ9005-221X	FUSI RESISTOR	220Ω,1/4W
		R5305	QRE141J-471Y	RESISTOR	470Ω,1/4W
		R5306	NRSA02J-333X	MG RESISTOR	33kΩ,1/10W
		R5307	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R5308	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R5309	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R5310	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R5311	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R5312	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R5313	QRE141J-222Y	RESISTOR	2.2kΩ,1/4W
		R5314	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R5317	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
		R5318	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
		R5319	QRE141J-511Y	RESISTOR	510Ω,1/4W
		R5320	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R5321	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
		R5322	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R5323	QRE141J-473Y	RESISTOR	47kΩ,1/4W
		R5324	QRE141J-102Y	RESISTOR	1kΩ,1/4W
		R5331	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R6020	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R6021	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R6022	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R6023	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R6030	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R6031	NRSA02J-271X	MG RESISTOR	270Ω,1/10W
		R6032	NRSA02J-392X	MG RESISTOR	3.9kΩ,1/10W
		R6033	NRSA02J-182X	MG RESISTOR	1.8kΩ,1/10W
		R6050	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R6051	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R6052	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R6082	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R6508	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R6510	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R6553	QRE141J-0R0Y	RESISTOR	0Ω,1/4W
		R6554	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R7530	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
		VR2251	QVP0039-473Z	TRIM RESISTOR,A.REC.FM	
		C1	QEKJ1CM-106	E CAPACITOR	10μF,16V
		C3	NCF21CZ-105X	CAPACITOR	1μF,16V
		C5	NCF21CZ-105X	CAPACITOR	1μF,16V
		C6	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C7	QETN1CM-107	E CAPACITOR	100μF,16V
		C9	NCF21CZ-105X	CAPACITOR	1μF,16V
		C11	NCF21CZ-105X	CAPACITOR	1μF,16V
		C12	NCB21EK-473X	CAPACITOR	0.047μF,25V
		C13	QERF1HM-335	E CAPACITOR	3.3μF,50V
		C14	NCB21EK-333X	CAPACITOR	0.033μF,25V
		C16	NCF21CZ-105X	CAPACITOR	1μF,16V
		C19	NDC21HJ-470X	CAPACITOR	47pF,50V
		C20	QEKJ1HM-225	E CAPACITOR	2.2μF,50V
		C21	NCB21CK-563X	CAPACITOR	0.056μF,16V
		C23	NCB21HK-223X	CAPACITOR	0.022μF,50V
		C24	NCB21CK-474X	CAPACITOR	0.47μF,16V
		C25	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C27	NDC21HJ-101X	CAPACITOR	100pF,50V
		C29	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
		C30	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
		C31	NCB21HK-223X	CAPACITOR	0.022μF,50V
		C32	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C34	QFVF1HJ-104Z	F CAPACITOR	0.1μF,50V
		C37	QEKJ1CM-476	E CAPACITOR	47μF,16V
		C41	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C42	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C43	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C45	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C46	NDC21HJ-101X	CAPACITOR	100pF,50V
		C47	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C48	QEKJ0JM-476	E CAPACITOR	47μF,6.3V
		C49	NDC21HJ-221X	CAPACITOR	220pF,50V
		C54	QEKJ1CM-106	E CAPACITOR	10μF,16V
		C55	QEKJ1CM-106	E CAPACITOR	10μF,16V
		C56	QEKJ1HM-335	E CAPACITOR	3.3μF,50V
		C57	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C58	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C59	NCB21EK-473X	CAPACITOR	0.047μF,25V
		C62	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C63	NDC21HG-151X	CAPACITOR	150pF,50V
		C64	QEKJ0JM-227	E CAPACITOR	220μF,6.3V
		C65	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C73	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C74	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		C76	NCB21HK-103X	CAPACITOR	0.01μF,50V

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
C77	NDC21HJ-270X	CAPACITOR	27pF,50V
C79	NDC21HJ-120X	CAPACITOR	12pF,50V
C85	NCB21HK-103X	CAPACITOR	0.01μF,50V
C86	QEKJ1CM-476	E CAPACITOR	47μF,16V
C87	NCB21HK-103X	CAPACITOR	0.01μF,50V
C88	NCB21HK-103X	CAPACITOR	0.01μF,50V
C89	NCB21HK-103X	CAPACITOR	0.01μF,50V
C90	NCB21HK-103X	CAPACITOR	0.01μF,50V
C91	NCB21EK-104X	CAPACITOR	0.1μF,25V
C92	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
C98	NCF21CZ-105X	CAPACITOR	1μF,16V
C107	NDC21HJ-5R0X	CAPACITOR	5pF,50V
C134	NCB21EK-104X	CAPACITOR	0.1μF,25V
C141	NCB21EK-104X	CAPACITOR	0.1μF,25V
C201	QEKJ0JM-227	E CAPACITOR	220μF,6.3V
C204	NDC21HJ-100X	CAPACITOR	10pF,50V
C206	NDC21HJ-330X	CAPACITOR	33pF,50V
C207	NDC21HJ-330X	CAPACITOR	33pF,50V
C209	NCB21CK-474X	CAPACITOR	0.47μF,16V
C212	NCB21EK-104X	CAPACITOR	0.1μF,25V
C213	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
C214	NCB21CK-224X	CAPACITOR	0.22μF,16V
C215	NCB21CK-224X	CAPACITOR	0.22μF,16V
C216	QEKJ0JM-227	E CAPACITOR	220μF,6.3V
C217	NDC21HJ-560X	CAPACITOR	56pF,50V
C218	NCB21AK-105X	CAPACITOR	1μF,10V
C222	NCB21AK-105X	CAPACITOR	1μF,10V
C402	NCB21HK-103X	CAPACITOR	0.01μF,50V
C403	NDC21HJ-150X	CAPACITOR	15pF,50V
C404	NCB21HK-102X	CAPACITOR	0.001μF,50V
C406	NDC21HJ-470X	CAPACITOR	47pF,50V
C407	NCB21HK-223X	CAPACITOR	0.022μF,50V
C408	NDC21HJ-121X	CAPACITOR	120pF,50V
C409	NCB21HK-103X	CAPACITOR	0.01μF,50V
C2002	QEKJ1CM-476	E CAPACITOR	47μF,16V
C2003	NCB21HK-123X	CAPACITOR	0.012μF,50V
C2004	QEKJ1CM-226	E CAPACITOR	22μF,16V
C2005	NCB21HK-102X	CAPACITOR	0.001μF,50V
C2006	NCB21HK-331X	CAPACITOR	330pF,50V
C2007	QEKJ1CM-106	E CAPACITOR	10μF,16V
C2008	NCB21HK-152X	CAPACITOR	0.0015μF,50V
C2009	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
C2010	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
C2011	NCB21EK-333X	CAPACITOR	0.033μF,25V
C2013	NCB21EK-333X	CAPACITOR	0.033μF,25V
C2015	QEKJ1CM-226	E CAPACITOR	22μF,16V
C2016	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
C2051	NCB21HK-331X	CAPACITOR	330pF,50V
C2052	QFLC1HJ-333Z	F CAPACITOR	0.033μF,50V
C2053	NCB21HK-332X	CAPACITOR	0.0033μF,50V
C2054	NCB21HK-103X	CAPACITOR	0.01μF,50V
C2055	QEKJ1CM-106	E CAPACITOR	10μF,16V
C2061	QFLC1HJ-333Z	F CAPACITOR	0.033μF,50V
C2062	NCB21HK-332X	CAPACITOR	0.0033μF,50V
C2063	NCB21HK-103X	CAPACITOR	0.01μF,50V
C2064	QEKJ1CM-106	E CAPACITOR	10μF,16V
C2101	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
C2102	QEKJ1CM-226	E CAPACITOR	22μF,16V
C2151	NDC21HJ-101X	CAPACITOR	100pF,50V
C2152	NCB21HK-103X	CAPACITOR	0.01μF,50V
C2201	QEKJ1HM-104	E CAPACITOR	0.1μF,50V

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
C2202	QEKJ1HM-104	E CAPACITOR	0.1μF,50V
C2204	QEKJ1CM-226	E CAPACITOR	22μF,16V
C2205	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
C2206	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
C2207	QEKJ0JM-476	E CAPACITOR	47μF,6.3V
C2208	QEKJ1CM-106	E CAPACITOR	10μF,16V
C2209	QEKJ1CM-106	E CAPACITOR	10μF,16V
C2210	QEKJ1CM-106	E CAPACITOR	10μF,16V
C2211	QEKJ1CM-106	E CAPACITOR	10μF,16V
C2212	QEKJ0JM-476	E CAPACITOR	47μF,6.3V
C2213	QERF0JM-476	E CAPACITOR,S8600EU	47μF,6.3V
	QTE1E41-476	E CAPACITOR,S9600EU	47μF,25V
C2214	NCB21HK-103X	CAPACITOR	0.01μF,50V
C2215	QEKJ1CM-106	E CAPACITOR	10μF,16V
C2216	QEKJ1HM-105	E CAPACITOR	1μF,50V
C2217	QEKJ1HM-105	E CAPACITOR	1μF,50V
C2218	QEKJ1CM-106	E CAPACITOR,S8600EU	10μF,16V
	QTE1E42-226	E CAPACITOR,S9600EU	22μF,25V
C2219	QEKJ1CM-106	E CAPACITOR,S8600EU	10μF,16V
	QTE1E42-226	E CAPACITOR,S9600EU	22μF,25V
C2220	QEKJ1CM-476	E CAPACITOR,S8600EU	47μF,16V
	QTE1E41-476	E CAPACITOR,S9600EU	47μF,25V
C2221	QEKJ1CM-106	E CAPACITOR	10μF,16V
C2222	QEKJ1CM-226	E CAPACITOR	22μF,16V
C2225	QEKJ1HM-224	E CAPACITOR	0.22μF,50V
C2226	QEKJ1CM-106	E CAPACITOR	10μF,16V
C2227	QEKJ1CM-106	E CAPACITOR	10μF,16V
C2230	NCB21CK-473X	CAPACITOR	0.047μF,16V
C2231	NCB21HK-153X	CAPACITOR	0.015μF,50V
C2232	QEKJ1HM-224	E CAPACITOR	0.22μF,50V
C2233	NCB21HK-153X	CAPACITOR	0.015μF,50V
C2234	NCB21CK-473X	CAPACITOR	0.047μF,16V
C2251	NCB21EK-104X	CAPACITOR	0.1μF,25V
C2252	NCB21HK-222X	CAPACITOR	0.0022μF,50V
C2253	NCB21HK-222X	CAPACITOR	0.0022μF,50V
C2256	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C2257	QERF0JM-476	E CAPACITOR	47μF,6.3V
C2258	NCB21EK-104X	CAPACITOR	0.1μF,25V
C2259	NCB21EK-104X	CAPACITOR	0.1μF,25V
C2260	NDC21HJ-181X	CAPACITOR	180pF,50V
C2261	NCB21HK-103X	CAPACITOR	0.01μF,50V
C2262	NDC21HJ-101X	CAPACITOR	100pF,50V
C2263	NDC21HJ-101X	CAPACITOR	100pF,50V
C2501	QEKJ0JM-107	E CAPACITOR	100μF,6.3V
C2502	NCB21HK-562X	CAPACITOR	0.0056μF,50V
C2503	QERF1HM-105	E CAPACITOR	1μF,50V
C2505	QEKJ0JM-107	E CAPACITOR	100μF,6.3V
C2506	NCB21HK-103X	CAPACITOR	0.01μF,50V
C2507	NBE20JM-226X	T CAPACITOR	22μF,6.3V
C2508	NCB21HK-103X	CAPACITOR	0.01μF,50V
C2509	NBE20JM-106X	T CAPACITOR	10μF,6.3V
C2510	QEKJ1CM-476	E CAPACITOR	47μF,16V
C2511	NCB21HK-222X	CAPACITOR	0.0022μF,50V
C2512	NDC21HJ-331X	CAPACITOR	330pF,50V
C2513	NCB21HK-103X	CAPACITOR	0.01μF,50V
C2518	NCB21HK-102X	CAPACITOR	0.001μF,50V
C2519	NCB21HK-103X	CAPACITOR	0.01μF,50V
C2520	NCB21HK-103X	CAPACITOR	0.01μF,50V
C3002	NCB21HK-103X	CAPACITOR	0.01μF,50V
C3003	QEKJ1HM-106	E CAPACITOR	10μF,50V
C3004	NCB21EK-104X	CAPACITOR	0.1μF,25V

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	C3010	QEZ0244-229	EDL CAPACITOR	0.0022F,5.5V
	C3012	QEKJ0JM-107	E CAPACITOR	100μF,6.3V
	C3013	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C3014	NBE20JM-226X	T CAPACITOR	22μF,6.3V
	C3016	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C3019	NDC21HJ-101X	CAPACITOR	100pF,50V
	C3020	NDC21HJ-101X	CAPACITOR	100pF,50V
	C3021	NDC21HJ-101X	CAPACITOR	100pF,50V
	C3022	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C3023	NBE20JM-106X	T CAPACITOR	10μF,6.3V
	C3024	NDC21HJ-220X	CAPACITOR	22pF,50V
	C3025	QAT3725-300Z	TRIM CAPACITOR,TIMER CLOCK	
	C3026	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C3027	NBE20JM-106X	T CAPACITOR	10μF,6.3V
	C3028	NDC21HJ-101X	CAPACITOR	100pF,50V
	C3029	NDC21HJ-101X	CAPACITOR	100pF,50V
	C3030	NBE20JM-226X	T CAPACITOR	22μF,6.3V
	C3031	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C3032	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C3033	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C3036	NDC21HJ-180X	CAPACITOR	18pF,50V
	C3037	NDC21HJ-120X	CAPACITOR	12pF,50V
	C3040	NCF21CZ-105X	CAPACITOR	1μF,16V
	C3042	QETJ0JM-477	E CAPACITOR	470μF,6.3V
	C3301	NBE20JM-226X	T CAPACITOR	22μF,6.3V
	C3302	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C3304	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C3501	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C3502	QEKJ1EM-335	E CAPACITOR	3.3μF,25V
	C3503	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C3961	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C4001	NBE20JM-226X	T CAPACITOR	22μF,6.3V
	C4002	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C4003	NCB21HK-102X	CAPACITOR	0.001μF,50V
	C4004	NBE20JM-226X	T CAPACITOR	22μF,6.3V
	C4005	NCB21HK-222X	CAPACITOR	0.0022μF,50V
	C4006	NBE40JM-476X	T CAPACITOR	47μF,6.3V
	C4007	NCB21HK-561X	CAPACITOR	560pF,50V
	C4008	NCB21AK-105X	CAPACITOR	1μF,10V
	C4009	NCB21HK-563X	CAPACITOR	0.056μF,50V
	C4010	NCB21EK-223X	CAPACITOR	0.022μF,25V
	C4011	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C4012	NCB21EK-224X	CAPACITOR	0.22μF,25V
	C4013	NCB21HK-563X	CAPACITOR	0.056μF,50V
	C4014	NDC21HJ-101X	CAPACITOR	100pF,50V
	C4015	NCB21HJ-102X	CAPACITOR	0.001μF,50V
⚠	C5001	QFZ9051-683	F CAPACITOR	0.068μF,250V
⚠	C5002	QFZ9051-333	F CAPACITOR	0.033μF,250V
⚠	C5005	QCZ9071-222	CAPACITOR	0.0022μF,250V
	C5006	QEZ0375-686	E CAPACITOR	68μF,400V
	C5101	QCZ0212-472	CAPACITOR	0.0047μF,1kV
	C5102	QCZ0302-330Z	CAPACITOR	33pF,1kV
	C5104	QETN1HM-105	E CAPACITOR	1μF,50V
	C5105	QFN31HJ-183	F CAPACITOR	0.018μF,50V
	C5106	QCBB1HJ-271	CAPACITOR	270pF,50V
	C5107	QFV91HJ-104	F CAPACITOR	0.1μF,50V
	C5110	QCZ0302-330Z	CAPACITOR	33pF,1kV
	C5201	QEMU0JM-227	E CAPACITOR	220μF,6.3V
	C5202	QEMT1CM-128	E CAPACITOR	1200μF,16V
	C5203	QEMT1AM-228	E CAPACITOR	2200μF,10V
	C5204	QETN2AM-475	E CAPACITOR	4.7μF,100V

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	C5205	QETN1HM-106	E CAPACITOR	10μF,50V
	C5206	QEMU1EM-187	E CAPACITOR	180μF,25V
	C5207	QETN1CM-227	E CAPACITOR	220μF,16V
	C5208	QETN1AM-227	E CAPACITOR	220μF,10V
	C5301	QEMU0JM-227	E CAPACITOR	220μF,6.3V
	C5302	QEKC1CM-106	E CAPACITOR	10μF,16V
	C5303	QETN1CM-107	E CAPACITOR	100μF,16V
	C5304	QFLC1HJ-183Z	F CAPACITOR	0.018μF,50V
	C5305	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C5306	QETN1AM-107	E CAPACITOR	100μF,10V
	C5307	QETN1CM-226	E CAPACITOR	22μF,16V
	C5308	QETN1EM-476	E CAPACITOR	47μF,25V
	C5309	QETN1CM-107	E CAPACITOR	100μF,16V
	C5310	QEKJ1HM-105	E CAPACITOR	1μF,50V
	C6006	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C6007	QETN1AM-337	E CAPACITOR	330μF,10V
	C6008	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C6012	QEKJ1CM-476	E CAPACITOR	47μF,16V
	C6013	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C6014	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C6016	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C6020	NDC21HJ-101X	CAPACITOR	100pF,50V
	C6021	NDC21HJ-101X	CAPACITOR	100pF,50V
	C6022	NDC21HJ-101X	CAPACITOR	100pF,50V
	C6032	NCB21HK-473X	CAPACITOR	0.047μF,50V
	C6033	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	C6037	QEKJ1HM-106	E CAPACITOR	10μF,50V
	C6055	NDC21HJ-220X	CAPACITOR	22pF,50V
	L1	QQL29BJ-100Z	COIL	10μH
	L3	QQL071J-6R8Y	COIL	6.8μH
	L4	QQL29BJ-100Z	COIL	10μH
	L7	QQL29BJ-100Z	COIL	10μH
	L9	QQL29BJ-100Z	COIL	10μH
	L12	QQL071J-330Y	COIL	33μH
	L13	QQL071J-120Y	COIL	12μH
	L14	QQL071J-820Y	COIL	82μH
	L16	QQL29BJ-100Z	COIL	10μH
	L18	QQR0967-001	COIL	12μH
	L201	QQL29BK-1R0Z	COIL	1μH
	L202	QQL071J-330Y	COIL	33μH
	L203	QQL071J-220Y	COIL	22μH
	L204	QQL29BJ-100Z	COIL	10μH
	L206	QQL071J-220Y	COIL	22μH
	L401	QQL071J-100Y	COIL	10μH
	L402	QQL231J-150Y	COIL	15μH
	L2251	QQL29BJ-100Z	COIL	10μH
	L2252	QQL29BJ-151Z	COIL	150μH
	L2501	QQL29BJ-2R2Z	COIL	2.2μH
	L3011	NQL03BK-330X	COIL	33μH
	L3012	NQL03BK-330X	COIL	33μH
	L5201	PELN1184	COIL	33μH
	L5202	PU60944-330K	COIL	33μH
	L6002	QQL29BJ-100Z	COIL	10μH
	L6004	QQL29BJ-100Z	COIL	10μH
	L6031	QQL29BK-1R0Z	COIL	1μH
	LPF2501	PELN1137	LOW PASS FILTER	
	CF2501	QAX0399-001Z	RESONATOR	
	CF3301	PU60440-2	RESONATOR	
	LC2501	QQL29BJ-100Z	COIL	10μH
	X1	QAX0530-001	CRYSTAL RESONATOR	
	X3001	QAX0445-001	CRYSTAL RESONATOR	

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION
	X3002	QAX0527-001	CRYSTAL RESONATOR
	S3002	QSW0695-001	PUSH SWITCH
	K5101	QQR0678-001Z	FERRITE BEAD
	PC3001	GP3S123	IC(PHOTO SENSOR
	PC3002	GP3S123	IC(PHOTO SENSOR
!	PC5101	PC123F2	PH COUPLER
!	PC5301	PS2501-1	PH COUPLER
	T2051	PELN0860	OSC TRANSFORMER
	T2052	PELN0861	OSC TRANSFORMER
!	T5001	QQS0033-001	SW TRANSFORMER
	TU6001	QAU0107-001	TUNER
	ET1	PQ21623-1-5	EARTH PLATE(RF)
	ET2	LP40547-001A	EARTH PLATE
	SD1	LP30563-001B	SHIELD CASE(PRE/REC)
!	HS1	LP40515-001A	HEAT SINK,Q5101
	HS2	LP40479-001B	HEAT SINK,IC5301
	OT1	PU59915-105	#500SPACER0.01,C2213
	OT2	QYTDSF3010Z	SCREW,X2TERMINAL
	OT3	QYTDST3008Z	SCREW,Q5101
	OT4	QYTDST3006Z	SCREW.IC5301
	FC5001	QNG0006-001Z	FUSE CLIP,F5001
	FC5002	QNG0006-001Z	FUSE CLIP,F5001
!	LF5001	PELN1204-01-01	LINE FILTER
!	LF5002	QQR0608-001	LINE FILTER
	CN1	QGF1028C1-13	FPC CONNECTOR,(1-13)U.DRUM
	CN2001	QGF1207C1-07	FPC CONNECTOR,(1-7)A/C HEAD
	CN2002	QGB2532J1-02	CONNECTOR,(1-2)FE HEAD
	CN3001	QGF1207C1-05	FPC CONNECTOR,(1-5)DRUM MDA
	CN3002	QGB2532J1-02	CONNECTOR,(1-2)L.MOTOR
	CN3003	QGB2015M2-08	CONNECTOR,(1-8)CAP.MOTOR
	CN3004	QGB2534J2-04	CONNECTOR,(1-4)R.ENCODER
	CN3011	QGF1207C1-14	FPC CONNECTOR,(1-14)FRONT
	CN3012	QGF1207C1-06	FPC CONNECTOR,(1-6)JOG,S8600EU
	CN3501	QGB2011L2-06	CONNECTOR,(1-6)DD MOTOR
!	CN5001	QGA7901C3-02	CONNECTOR,(1-2)AC IN
	CN7501	QGB2024K1-09S	CONNECTOR,(1-9)TERMINAL
	CN7502	QGB2024K1-10S	CONNECTOR,(1-10)TERMINAL
	CN7503	QGB2024K1-10S	CONNECTOR,(1-10)TERMINAL
	CN7504	QGF1207C1-05	CONNECTOR,(1-5)
!	CP4001	ICP-N15	CIRCUIT PROTECTOR
!	CP5301	ICP-N38	CIRCUIT PROTECTOR
!	CP5302	ICP-N25	CIRCUIT PROTECTOR
!	F5001	QMF51E2-2R0J1	FUSE T2.0A,AC250V

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3D SVHS BOARD ASSEMBLY <05>

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION
	PW1	LPA10033-10A	3D SVHS BOARD ASSY
	IC1001	JCP8008	IC
	IC1002	VC2076MP-XE	IC
	IC1006	HA118092FP1	IC
	IC1007	BA10358F-XE	IC
	IC1401	JCP8010-2	IC(DIGITAL)
	IC1402	MN47V77S-XE	IC
	Q1004	DTC144WU	TRANSISTOR
		or RN1309	TRANSISTOR
		or UN521E	TRANSISTOR
	Q1005	DTC144WU	TRANSISTOR
		or RN1309	TRANSISTOR
		or UN521E	TRANSISTOR
	Q1006	2SA1576A/QR/-X	TRANSISTOR
		or 2SB1218A/QR/-X	TRANSISTOR
		or 2PA1576/R/-X	TRANSISTOR
	Q1007	2SC4081/QRS/-X	TRANSISTOR
		or 2PC4081/R/-X	TRANSISTOR
		or 2SD1819A/QRS/-X	TRANSISTOR
	Q1012	2SC4081/QRS/-X	TRANSISTOR
		or 2PC4081/R/-X	TRANSISTOR
		or 2SD1819A/QRS/-X	TRANSISTOR
	Q1014	2SC4081/QRS/-X	TRANSISTOR
		or 2SD1819A/QRS/-X	TRANSISTOR
		or 2PC4081/R/-X	TRANSISTOR
	Q1015	2SC4081/QRS/-X	TRANSISTOR
		or 2PC4081/R/-X	TRANSISTOR
		or 2SD1819A/QRS/-X	TRANSISTOR
	Q1016	DTC144WU	TRANSISTOR
		or RN1309	TRANSISTOR
		or UN521E	TRANSISTOR
	Q1021	2SA1576A/QR/-X	TRANSISTOR
		or 2SB1218A/QR/-X	TRANSISTOR
		or 2PA1576/R/-X	TRANSISTOR
	Q1022	DTC144WU	TRANSISTOR
		or RN1309	TRANSISTOR
		or UN521E	TRANSISTOR
	Q1401	2SC1317/RS/-T	TRANSISTOR
	Q1402	2SC4081/QRS/-X	TRANSISTOR
		or 2SD1819A/QRS/-X	TRANSISTOR
		or 2PC4081/R/-X	TRANSISTOR
	Q1403	2SC4081/QRS/-X	TRANSISTOR
		or 2PC4081/R/-X	TRANSISTOR
		or 2SD1819A/QRS/-X	TRANSISTOR
	Q1404	2SC4081/S/-X	TRANSISTOR
		or 2SD1819A/QRS/-X	TRANSISTOR
		or 2PC4081/R/-X	TRANSISTOR
	Q1405	2SC4081/QRS/-X	TRANSISTOR
		or 2PC4081/R/-X	TRANSISTOR
		or 2SD1819A/QRS/-X	TRANSISTOR
	Q1406	2SA1576A/QR/-X	TRANSISTOR
		or 2SB1218A/QR/-X	TRANSISTOR
		or 2PA1576/R/-X	TRANSISTOR
	Q1407	2SA1576A/QR/-X	TRANSISTOR
		or 2PA1576/R/-X	TRANSISTOR
		or 2SB1218A/QR/-X	TRANSISTOR
	Q1408	2SA1576A/QR/-X	TRANSISTOR
		or 2SB1218A/QR/-X	TRANSISTOR
		or 2PA1576/R/-X	TRANSISTOR
	Q1409	2SA1576A/QR/-X	TRANSISTOR
		or 2PA1576/R/-X	TRANSISTOR
		or 2SB1218A/QR/-X	TRANSISTOR
	Q1410	2SC4081/QRS/-X	TRANSISTOR
		or 2SD1819A/QRS/-X	TRANSISTOR
		or 2PC4081/R/-X	TRANSISTOR
	Q1411	2SA1576A/QR/-X	TRANSISTOR
		or 2PA1576/R/-X	TRANSISTOR
		or 2SB1218A/QR/-X	TRANSISTOR
	Q1412	DTC144WU	TRANSISTOR
		or RN1309	TRANSISTOR
		or UN521E	TRANSISTOR

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		Q1413	DTC144WU	TRANSISTOR	
			or RN1309	TRANSISTOR	
			or UN521E	TRANSISTOR	
		Q1414	DTC144WU	TRANSISTOR	
			or UN521E	TRANSISTOR	
			or RN1309	TRANSISTOR	
		Q1416	DTC144WU	TRANSISTOR	
			or RN1309	TRANSISTOR	
			or UN521E	TRANSISTOR	
		Q1417	2SC4081/QRS/-X	TRANSISTOR	
			or 2SD1819A/QRS/-X	TRANSISTOR	
			or 2PC4081/R/-X	TRANSISTOR	
		Q1418	2SC4081/QRS/-X	TRANSISTOR	
			or 2PC4081/R/-X	TRANSISTOR	
			or 2SD1819A/QRS/-X	TRANSISTOR	
		D1002	1SS133	DIODE	
			or 1N4148M	DIODE	
		D1003	1SS133	DIODE	
			or 1N4148M	DIODE	
		D1004	1SS133	DIODE	
			or 1N4148M	DIODE	
		D1006	1SS133	DIODE	
			or 1N4148M	DIODE	
		D1401	RD4.3ES/B2/-T2	ZENER DIODE	
			or MTZJ4.3B	ZENER DIODE	
		D1402	1SS133	DIODE	
			or 1N4148M	DIODE	
		R1002	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R1003	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
		R1004	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R1008	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R1009	NRSA02J-125X	MG RESISTOR	1.2MΩ,1/10W
		R1010	NRVA02D-332X	CMF RESISTOR	3.3kΩ,1/10W
		R1011	NRVA02D-332X	CMF RESISTOR	3.3kΩ,1/10W
		R1012	NRVA02D-152X	CMF RESISTOR	1.5kΩ,1/10W
		R1013	NRVA02D-471X	CMF RESISTOR	470Ω,1/10W
		R1014	NRVA02D-102X	CMF RESISTOR	1kΩ,1/10W
		R1015	NRVA02D-102X	CMF RESISTOR	1kΩ,1/10W
		R1016	NRSA02J-122X	MG RESISTOR	1.2kΩ,1/10W
		R1017	NRSA02J-162X	MG RESISTOR	1.6kΩ,1/10W
		R1018	NRSA02J-151X	MG RESISTOR	150Ω,1/10W
		R1019	NRSA02J-391X	MG RESISTOR	390Ω,1/10W
		R1020	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
		R1021	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
		R1023	NRSA02J-272X	MG RESISTOR	2.7kΩ,1/10W
		R1025	NRSA02J-823X	MG RESISTOR	82kΩ,1/10W
		R1026	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R1027	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
		R1028	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
		R1029	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R1030	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R1031	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
		R1032	NRSA02J-181X	MG RESISTOR	180Ω,1/10W
		R1035	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R1037	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R1038	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R1039	NRSA02J-394X	MG RESISTOR	390kΩ,1/10W
		R1045	NRSA02J-272X	MG RESISTOR	2.7kΩ,1/10W
		R1046	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
		R1047	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R1048	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R1049	NRSA02J-475X	MG RESISTOR	4.7MΩ,1/10W
		R1053	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R1054	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
		R1055	NRVA02D-563X	CMF RESISTOR	56kΩ,1/10W
		R1056	NRVA02D-224X	CMF RESISTOR	220kΩ,1/10W
		R1058	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
		R1059	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R1060	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R1063	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
		R1064	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
		R1065	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R1066	NRSA02J-272X	MG RESISTOR	2.7kΩ,1/10W
		R1067	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R1068	NRSA02J-361X	MG RESISTOR	360Ω,1/10W
		R1069	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R1070	NRSA02J-391X	MG RESISTOR	390Ω,1/10W
		R1071	NRSA02J-104X	MG RESISTOR	100kΩ,1/10W
		R1072	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
		R1073	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R1401	NRSA02J-331X	MG RESISTOR	330Ω,1/10W
		R1402	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R1403	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
		R1404	NRSA02J-123X	MG RESISTOR	12kΩ,1/10W
		R1405	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R1406	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R1407	NRSA02J-821X	MG RESISTOR	820Ω,1/10W
		R1408	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R1409	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
		R1410	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
		R1411	NRSA02J-243X	MG RESISTOR	24kΩ,1/10W
		R1412	NRSA02J-104X	MG RESISTOR	100kΩ,1/10W
		R1413	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R1414	NRSA02J-331X	MG RESISTOR	330Ω,1/10W
		R1415	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R1416	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R1417	NRSA02J-821X	MG RESISTOR	820Ω,1/10W
		R1418	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R1419	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
		R1420	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
		R1422	NRSA02J-391X	MG RESISTOR	390Ω,1/10W
		R1423	NRSA02J-821X	MG RESISTOR	820Ω,1/10W
		R1425	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R1428	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R1429	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R1430	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R1431	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R1432	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R1433	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R1434	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R1435	NRSA02J-242X	MG RESISTOR	2.4kΩ,1/10W
		R1436	NRSA02J-153X	MG RESISTOR	15kΩ,1/10W
		R1437	NRSA02J-123X	MG RESISTOR	12kΩ,1/10W
		R1438	NRSA02J-821X	MG RESISTOR	820Ω,1/10W
		R1439	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R1440	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
		R1442	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
		R1443	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R1444	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
		R1445	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R1446	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R1447	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
R1448	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R1449	NRSA02J-470X	MG RESISTOR	47Ω,1/10W
R1451	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
R1452	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R1454	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R1455	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
R1456	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
R1457	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R1458	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R1459	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R1460	NRSA02J-104X	MG RESISTOR	100kΩ,1/10W
R1461	NRSA02J-182X	MG RESISTOR	1.8kΩ,1/10W
R1462	NRSA02J-272X	MG RESISTOR	2.7kΩ,1/10W
R1463	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
R1465	NRSA02J-821X	MG RESISTOR	820Ω,1/10W
R1467	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
R1468	NRSA02J-162X	MG RESISTOR	1.6kΩ,1/10W
R1470	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R1471	NRSA02J-333X	MG RESISTOR	33kΩ,1/10W
R1472	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
VR1002	QVZ3521-104Z	V RESISTOR,P.BURST LEVEL ADJ	
VR1401	QVP0039-103Z	TRIM RESISTOR,D/A LEVEL ADJ	
C1001	QEKJ0JM-476	E CAPACITOR	47μF,6.3V
C1002	QEKJ1HM-474	E CAPACITOR	0.47μF,50V
C1003	QEKJ1CM-106	E CAPACITOR	10μF,16V
C1005	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
C1006	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1007	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1010	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1011	NDC21HJ-150X	CAPACITOR	15pF,50V
C1013	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1014	QEKJ1HM-225	E CAPACITOR	2.2μF,50V
C1015	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
C1016	QEKJ1HM-225	E CAPACITOR	2.2μF,50V
C1017	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1019	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1020	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1021	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1022	QEKJ1HM-105	E CAPACITOR	1μF,50V
C1023	QEKJ1HM-225	E CAPACITOR	2.2μF,50V
C1024	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1026	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1027	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1028	QEKJ0JM-337	E CAPACITOR	330μF,6.3V
C1029	QEKJ1HM-104	E CAPACITOR	0.1μF,50V
C1030	QEKJ1HM-105	E CAPACITOR	1μF,50V
C1031	QEKJ1HM-225	E CAPACITOR	2.2μF,50V
C1033	QEKJ1HM-105	E CAPACITOR	1μF,50V
C1034	QEPF1HM-105	NP E CAPACITOR	1μF,50V
C1035	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
C1036	QEKJ0JM-226	E CAPACITOR	22μF,6.3V
C1037	QEKJ1HM-225	E CAPACITOR	2.2μF,50V
C1038	QEKJ1HM-225	E CAPACITOR	2.2μF,50V
C1039	QEKJ1CM-476	E CAPACITOR	47μF,16V
C1040	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1041	NDC21HG-301X	CAPACITOR	300pF,50V
C1042	NDC21HG-301X	CAPACITOR	300pF,50V
C1043	NDC21HG-221X	CAPACITOR	220pF,50V
C1044	NDC21HG-820X	CAPACITOR	82pF,50V
C1045	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1046	NDC21HG-271X	CAPACITOR	270pF,50V
C1047	NDC21HJ-101X	CAPACITOR	100pF,50V
C1048	NDC21HJ-181X	CAPACITOR	180pF,50V
C1049	NDC21HG-301X	CAPACITOR	300pF,50V
C1050	NDC21HG-301X	CAPACITOR	300pF,50V
C1056	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1057	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1058	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1063	NDC21HJ-101X	CAPACITOR	100pF,50V
C1064	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1065	QEKJ0JM-227	E CAPACITOR	220μF,6.3V
C1066	NCB21EK-223X	CAPACITOR	0.022μF,25V
C1067	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1068	QEKJ1HM-105	E CAPACITOR	1μF,50V
C1069	QEKJ1CM-106	E CAPACITOR	10μF,16V
C1070	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1071	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1072	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1073	NDC21HJ-150X	CAPACITOR	15pF,50V
C1074	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1082	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1086	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1087	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1088	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1089	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1092	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1095	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1401	QEKJ1CM-336	E CAPACITOR	33μF,16V
C1402	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1403	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1404	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1405	NDC21HJ-220X	CAPACITOR	22pF,50V
C1406	NDC21HJ-6R0X	CAPACITOR	6pF,50V
C1407	NDC21HJ-390X	CAPACITOR	39pF,50V
C1408	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1409	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1410	QEKJ0JM-337	E CAPACITOR	330μF,6.3V
C1411	QEKJ1CM-106	E CAPACITOR	10μF,16V
C1412	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1413	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1414	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1415	NDC21HJ-221X	CAPACITOR	220pF,50V
C1416	NDC21HJ-391X	CAPACITOR	390pF,50V
C1417	NDC21HJ-680X	CAPACITOR	68pF,50V
C1418	NDC21HJ-8R0X	CAPACITOR	8pF,50V
C1419	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1420	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1421	NDC21HJ-680X	CAPACITOR	68pF,50V
C1422	NDC21HJ-330X	CAPACITOR	33pF,50V
C1424	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1425	QEKJ0JM-337	E CAPACITOR	330μF,6.3V
C1426	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1427	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1428	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1429	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1430	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1431	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1432	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
C1433	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1434	QEKJ0JM-337	E CAPACITOR	330μF,6.3V
C1435	QEKJ1HM-105	E CAPACITOR	1μF,50V
C1436	NCF21EZ-104X	CAPACITOR	0.1μF,25V

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
C1437	NCF21EZ-104X	CAPACITOR	0.1µF,25V
C1438	NCF21EZ-104X	CAPACITOR	0.1µF,25V
C1439	NCF21EZ-104X	CAPACITOR	0.1µF,25V
C1440	NCF21EZ-104X	CAPACITOR	0.1µF,25V
C1441	NCF21EZ-104X	CAPACITOR	0.1µF,25V
C1442	NCF21EZ-104X	CAPACITOR	0.1µF,25V
C1443	NCF21EZ-104X	CAPACITOR	0.1µF,25V
C1444	QEKJ1HM-105	E CAPACITOR	1µF,50V
C1445	NCF21EZ-104X	CAPACITOR	0.1µF,25V
C1446	NCB21EK-104X	CAPACITOR	0.1µF,25V
C1447	NCB21HK-222X	CAPACITOR	0.0022µF,50V
C1448	NCF21EZ-104X	CAPACITOR	0.1µF,25V
C1449	QEKJ0JM-337	E CAPACITOR	330µF,6.3V
C1450	NCF21EZ-104X	CAPACITOR	0.1µF,25V
C1451	NCF21EZ-104X	CAPACITOR	0.1µF,25V
C1454	NDC21HJ-220X	CAPACITOR	22pF,50V
C1455	NDC21HJ-390X	CAPACITOR	39pF,50V
C1457	NCF21EZ-104X	CAPACITOR	0.1µF,25V
C1458	NCB21HK-103X	CAPACITOR	0.01µF,50V
C1459	NDC21HJ-470X	CAPACITOR	47pF,50V
C1460	NDC21HJ-470X	CAPACITOR	47pF,50V
C1461	NDC21HJ-470X	CAPACITOR	47pF,50V
C1462	NDC21HJ-470X	CAPACITOR	47pF,50V
C1463	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
C1464	NDC21HJ-330X	CAPACITOR	33pF,50V
C1465	NDC21HJ-470X	CAPACITOR	47pF,50V
C1468	NDC21HJ-470X	CAPACITOR	47pF,50V
C1469	NDC21HJ-470X	CAPACITOR	47pF,50V
C1470	NDC21HJ-470X	CAPACITOR	47pF,50V
C1471	NDC21HJ-470X	CAPACITOR	47pF,50V
C1472	NDC21HJ-470X	CAPACITOR	47pF,50V
C1473	NDC21HJ-470X	CAPACITOR	47pF,50V
L1001	QQL29BJ-220Z	COIL	22µH
L1004	QQL071J-680Y	COIL	68µH
L1006	QQL29BJ-101Z	COIL	100µH
L1008	QQL29BJ-100Z	COIL	10µH
L1401	QQL071J-330Y	COIL	33µH
L1402	QQL29BJ-100Z	COIL	10µH
L1404	QQL071J-8R2Y	COIL	8.2µH
L1405	QQL071J-150Y	COIL	15µH
L1406	QQL071J-6R8Y	COIL	6.8µH
L1407	QQL29BJ-100Z	COIL	10µH
L1408	QQL29BJ-100Z	COIL	10µH
L1409	QQL071J-330Y	COIL	33µH
L1410	QQL29BJ-4R7Z	COIL	4.7µH
L1411	QQL071J-1R0Y	COIL	1µH
LC1401	QQR0657-013Z	NOISE FILTER	
LC1402	QQR0657-010Z	NOISE FILTER	
SD1	LP30621-001A	SHIELD CASE(SVHS 3D)	
SD2	LP30406-001A	SHIELD PLATE(SVHS)	
BK1	LP40077-001A	BRACKET(BOARD)	
CN1001	QGG2503K2-30	HEADER PIN	
CN1002	QGG2503K2-30	HEADER PIN	
CN1003	QGF1217F1-07	FPC CONNECTOR,(1-7)TERMINAL	

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TERMINAL BOARD ASSEMBLY <06>

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
PW1	LPA10055-01A	TERMINAL BOARD ASSY,S8600EU	
	LPA10055-04A	TERMINAL BOARD ASSY,S9600EU	
IC7101	BH7635S	IC	
IC7102	MM1231XF	IC	
Q7102	2SB1218A/QR/-X	TRANSISTOR	
	or 2PA1576/R/-X	TRANSISTOR	
	or 2SA1576A/QR/-X	TRANSISTOR	
Q7103	2SB1218A/QR/-X	TRANSISTOR	
	or 2SA1576A/QR/-X	TRANSISTOR	
	or 2PA1576/R/-X	TRANSISTOR	
Q7104	2SB1218A/QR/-X	TRANSISTOR	
	or 2SA1576A/QR/-X	TRANSISTOR	
	or 2PA1576/R/-X	TRANSISTOR	
Q7107	2SB1218A/QR/-X	TRANSISTOR	
	or 2SA1576A/QR/-X	TRANSISTOR	
	or 2PA1576/R/-X	TRANSISTOR	
Q7108	2SD1819A/QRS/-X	TRANSISTOR	
	or 2PC4081/R/-X	TRANSISTOR	
	or 2SC4081/QRS/-X	TRANSISTOR	
Q7109	2SD1819A/QRS/-X	TRANSISTOR	
	or 2SC4081/QRS/-X	TRANSISTOR	
	or 2PC4081/R/-X	TRANSISTOR	
Q7110	2SD1819A/QRS/-X	TRANSISTOR	
	or 2PC4081/R/-X	TRANSISTOR	
	or 2SC4081/QRS/-X	TRANSISTOR	
Q7111	UN5211	TRANSISTOR	
	or RN1302	TRANSISTOR	
	or DTC114EU	TRANSISTOR	
	or PDTC114EU	TRANSISTOR	
Q7112	2SD1819A/QRS/-X	TRANSISTOR	
	or 2SC4081/QRS/-X	TRANSISTOR	
	or 2PC4081/R/-X	TRANSISTOR	
R7104	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
R7105	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
R7106	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
R7107	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
R7108	QRE123J-391X	RESISTOR	390Ω,1/2W
R7109	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R7110	QRE123J-391X	RESISTOR	390Ω,1/2W
R7111	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R7112	NRSA02J-181X	MG RESISTOR	180Ω,1/10W
R7113	NRSA02J-431X	MG RESISTOR	430Ω,1/10W
R7114	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
R7116	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R7117	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R7121	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
R7123	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R7124	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R7125	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R7126	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R7127	QRE141J-750Y	RESISTOR	75Ω,1/4W
R7128	QRE141J-103Y	RESISTOR	10kΩ,1/4W
R7129	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R7130	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
R7131	QRE123J-391X	RESISTOR	390Ω,1/2W
R7132	NRSA02J-680X	MG RESISTOR	68Ω,1/10W
R7133	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	R7134	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
	R7135	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R7136	NRSA02J-272X	MG RESISTOR	2.7kΩ,1/10W
	R7137	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R7138	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
	R7139	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
	R7140	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
	R7141	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
	R7142	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
	R7143	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
	R7144	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
	R7145	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
	R7146	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
	R7147	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
	R7149	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
	R7157	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R7162	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
	C7102	QETJ0JM-477	E CAPACITOR	470μF,6.3V
	C7103	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C7104	QEKJ1CM-476	E CAPACITOR	47μF,16V
	C7105	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C7106	NCB21HK-223X	CAPACITOR	0.022μF,50V
	C7108	NCB21HK-223X	CAPACITOR	0.022μF,50V
	C7109	QEKJ1CM-476	E CAPACITOR	47μF,16V
	C7110	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C7112	NDC21HJ-330X	CAPACITOR	33pF,50V
	C7113	NCB21HK-223X	CAPACITOR	0.022μF,50V
	C7114	NCB21HK-223X	CAPACITOR	0.022μF,50V
	C7115	NCB21HK-681X	CAPACITOR	680pF,50V
	C7116	NCB21HK-681X	CAPACITOR	680pF,50V
	C7119	NCB21HK-102X	CAPACITOR	0.001μF,50V
	C7120	NCB21HK-102X	CAPACITOR	0.001μF,50V
	C7124	QEKJ1CM-476	E CAPACITOR	47μF,16V
	C7125	QEKJ1CM-476	E CAPACITOR	47μF,16V
	C7126	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	C7127	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C7128	NCB21HK-681X	CAPACITOR	680pF,50V
	C7129	NCB21HK-681X	CAPACITOR	680pF,50V
	C7133	NCB21HK-102X	CAPACITOR	0.001μF,50V
	C7134	NCB21HK-102X	CAPACITOR	0.001μF,50V
	C7137	QEKJ1CM-107	E CAPACITOR	100μF,16V
	C7138	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C7139	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C7140	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C7142	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C7143	QEKJ1CM-106	E CAPACITOR	10μF,16V
	C7144	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C7146	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	C7147	QEKJ1CM-106	E CAPACITOR	10μF,16V
	C7148	NDC21HJ-101X	CAPACITOR	100pF,50V
	C7150	NCB21HK-102X	CAPACITOR	0.001μF,50V
	C7152	NCB21HK-102X	CAPACITOR	0.001μF,50V
	C7158	NDC21HJ-470X	CAPACITOR	47pF,50V
	C7161	QEKJ1CM-476	E CAPACITOR	47μF,16V
	L7105	QQL231J-1R0Y	COIL	1μH
	L7107	QQL231J-R22Y	COIL	0.22μH
	L7108	QQL231J-4R7Y	COIL	4.7μH
	L7109	QQL231J-4R7Y	COIL	4.7μH
	L7110	QQL231J-4R7Y	COIL	4.7μH
	L7111	QQL231J-4R7Y	COIL	4.7μH
	L7112	QQL231J-1R0Y	COIL	1μH

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	L7113	QQL231J-4R7Y	COIL	4.7μH
	L7114	QQL231J-4R7Y	COIL	4.7μH
	L7115	QQL231J-4R7Y	COIL	4.7μH
	L7116	QQL231J-4R7Y	COIL	4.7μH
	L7121	QQL231J-4R7Y	COIL	4.7μH
	L7123	QQL231J-4R7Y	COIL	4.7μH
	SW7101	QSW0693-001	SLIDE SWITCH	
	ET1	PQ21987-1-1	EARTH PLATE(TERMINAL)	
⚠	TB1	LP30562-001A	TERMINAL BOARD ASSY	
	OT1	QYTDSF3008Z	SCREW,X8	
	J7101	PEMC1177	RGB21PIN SOCKET,AV1	
	J7102	PEMC1177	RGB21PIN SOCKET,AV2	
	J7103	QNN0023-002	PIN JACK,A.OUT(R),S8600EU	
		QNN0021-002	PIN JACK,A.OUT(R),S9600EU	
	J7104	QNN0021-003	PIN JACK,A.OUT(L),S9600EU	
		QNN0023-003	PIN JACK,A.OUT(L),S8600EU	
	J7107	QND0009-001	S JACK,S OUT,S8600EU	
		QND0010-001	S JACK,S OUT,S9600EU	
	J7108	PEMC1190	MINI JACK,JLIP	
	J7109	QNS0150-001	2.5 JACK,LANC	
	J7110	PU60659	MINI JACK,R.PAUSE	
	CN7101	QGB2024J1-09S	CONNECTOR,(1-9)MAIN	
	CN7102	QGB2024J1-10S	CONNECTOR,(1-10)MAIN	
	CN7103	QGB2024J1-10S	CONNECTOR,(1-10)MAIN	
	CN7104	QGF1208F1-07	FPC CONNECTOR,(1-7)	
	CN7105	QGF1208F1-04	FPC CONNECTOR,(1-4)	

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AUDIO CONTROL HEAD BOARD ASSEMBLY <12>

REF No.	PART No.	PART NAME, DESCRIPTION
PW1	LPA10010-01A1	A/C HEAD BOARD ASSY
CN1	QGF1208F1-07	FPC CONNECTOR

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DEMOD BOARD ASSEMBLY <14>

REF No.	PART No.	PART NAME, DESCRIPTION	
PW1	LPA10021-03B	DEMOD BOARD ASSY	
IC6701	MSP34VCD	IC	
	or MSP3415D	IC	
Q6701	2SC3068	TRANSISTOR	
Q6702	2SC3354/TS/-T	TRANSISTOR	
Q6704	DTC114EU	TRANSISTOR	
	or UN5211	TRANSISTOR	
	or PDTC114EU	TRANSISTOR	
Q6705	DTC114EU	TRANSISTOR	
	or UN5211	TRANSISTOR	
	or PDTC114EU	TRANSISTOR	
D6702	MTZJ9.1B	ZENER DIODE	
D6703	1N4148M	DIODE	
	or 1SS133	DIODE	
D6704	1N4148M	DIODE	
	or 1SS133	DIODE	
R6701	NRSA02J-101X	MG RESISTOR	100Ω,1/10W

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
R6702	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R6703	NRSA02J-271X	MG RESISTOR	270Ω,1/10W
R6704	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R6705	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R6706	NRSA02J-392X	MG RESISTOR	3.9kΩ,1/10W
R6707	NRSA02J-470X	MG RESISTOR	47Ω,1/10W
R6708	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R6709	NRSA02J-271X	MG RESISTOR	270Ω,1/10W
R6710	NRSA02J-151X	MG RESISTOR	150Ω,1/10W
R6712	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R6713	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R6714	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R6715	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
R6716	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R6717	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
R6718	NRSA02J-684X	MG RESISTOR	680kΩ,1/10W
C6703	QEKJ1CM-336	E CAPACITOR	33µF,16V
C6704	QEKJ1CM-107	E CAPACITOR	100µF,16V
C6705	NCB21HK-103X	CAPACITOR	0.01µF,50V
C6706	NCB21HK-223X	CAPACITOR	0.022µF,50V
C6707	NCB21HK-103X	CAPACITOR	0.01µF,50V
C6708	NCB21HK-103X	CAPACITOR	0.01µF,50V
C6709	QEKJ1CM-336	E CAPACITOR	33µF,16V
C6710	NCB21HK-682X	CAPACITOR	0.0068µF,50V
C6711	NCB21HK-682X	CAPACITOR	0.0068µF,50V
C6712	QEKJ1HM-225	E CAPACITOR	2.2µF,50V
C6713	QEKJ1HM-225	E CAPACITOR	2.2µF,50V
C6714	NCF21CZ-224X	CAPACITOR	0.22µF,16V
C6717	NCB21HK-223X	CAPACITOR	0.022µF,50V
C6718	QEKJ1CM-336	E CAPACITOR	33µF,16V
C6719	QEKJ1CM-106	E CAPACITOR	10µF,16V
C6720	QEKJ1CM-106	E CAPACITOR	10µF,16V
C6721	NCB21HK-103X	CAPACITOR	0.01µF,50V
C6722	QEKJ1CM-106	E CAPACITOR	10µF,16V
C6723	NCB21HK-103X	CAPACITOR	0.01µF,50V
C6727	NDC21HJ-470X	CAPACITOR	47pF,50V
C6728	NDC21HJ-470X	CAPACITOR	47pF,50V
C6729	NDC21HJ-8R0X	CAPACITOR	8pF,50V
C6730	NDC21HJ-1R0X	CAPACITOR	1pF,50V
L6701	QQL29BK-1R0Z	COIL	1µH
L6702	QQL29BJ-3R3Z	COIL	3.3µH
L6703	QQL231J-390Y	COIL	39µH
L6704	QQL29BK-1R0Z	COIL	1µH
L6705	QQL231J-100Y	COIL	10µH
LC6701	QQR0657-013	NOISE FILTER	
X6701	QAX0443-001	CRYSTAL RESONATOR	
BK1	LP40077-001A	BRACKET(BOARD)	
CN6701	QGG2502K1-11	HEADER PIN(1-11)	

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SW/DISPLAY BOARD ASSEMBLY(S8600EU) <28>

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
PW1	LPA10056-04A1	DISPLAY BOARD ASSY	
IC7001	M35500BGP	IC	
	or M35500AGP	IC	
	or M35500BFP	IC	
IC7002	PNA4652M00XB	IR DETECT UNIT	
	or GP1U281X	IR DETECT UNIT	
D7002	RD9.1ES/B2/-T2	ZENER DIODE	
	or MTZJ9.1B	ZENER DIODE	
	or UZ9.1BSB	ZENER DIODE	
D7004	1SS133	DIODE	
D7005	1SS133	DIODE	
D7006	1SS133	DIODE	
D7009	SLR-342DC3F	LE DIODE	
D7010	SLR-342VC3F	LE DIODE	
D7011	SLR-342MC3F	LE DIODE	
R7001	QRE141J-471Y	RESISTOR	470Ω,1/4W
R7002	QRE141J-471Y	RESISTOR	470Ω,1/4W
R7003	QRE141J-471Y	RESISTOR	470Ω,1/4W
R7004	QRE141J-471Y	RESISTOR	470Ω,1/4W
R7005	QRE141J-103Y	RESISTOR	10kΩ,1/4W
R7006	QRE141J-103Y	RESISTOR	10kΩ,1/4W
R7007	QRE141J-103Y	RESISTOR	10kΩ,1/4W
R7008	QRE141J-103Y	RESISTOR	10kΩ,1/4W
R7009	QRE141J-153Y	RESISTOR	15kΩ,1/4W
R7010	QRE141J-103Y	RESISTOR	10kΩ,1/4W
R7013	QRE141J-103Y	RESISTOR	10kΩ,1/4W
R7020	QRE141J-103Y	RESISTOR	10kΩ,1/4W
R7021	QRE141J-122Y	RESISTOR	1.2kΩ,1/4W
R7022	QRE141J-182Y	RESISTOR	1.8kΩ,1/4W
R7023	QRE141J-222Y	RESISTOR	2.2kΩ,1/4W
R7024	QRE141J-272Y	RESISTOR	2.7kΩ,1/4W
R7025	QRE141J-472Y	RESISTOR	4.7kΩ,1/4W
R7026	QRE141J-682Y	RESISTOR	6.8kΩ,1/4W
R7027	QRE141J-153Y	RESISTOR	15kΩ,1/4W
R7028	QRE141J-393Y	RESISTOR	39kΩ,1/4W
R7030	QRE141J-103Y	RESISTOR	10kΩ,1/4W
R7031	QRE141J-122Y	RESISTOR	1.2kΩ,1/4W
R7032	QRE141J-182Y	RESISTOR	1.8kΩ,1/4W
R7033	QRE141J-222Y	RESISTOR	2.2kΩ,1/4W
R7034	QRE141J-153Y	RESISTOR	15kΩ,1/4W
R7037	QRE141J-153Y	RESISTOR	15kΩ,1/4W
R7038	QRE141J-393Y	RESISTOR	39kΩ,1/4W
R7040	QRE141J-331Y	RESISTOR	330Ω,1/4W
R7041	QRE141J-331Y	RESISTOR	330Ω,1/4W
R7042	QRE141J-331Y	RESISTOR	330Ω,1/4W
C7001	QCFB1HZ-104	CAPACITOR	0.1µF,50V
C7002	QETC1HM-106	E CAPACITOR	10µF,50V
C7007	QETN1HM-476	E CAPACITOR	47µF,50V
C7009	QCSB1HJ-150	CAPACITOR	15pF,50V
C7010	QCFB1HZ-104	CAPACITOR	0.1µF,50V
C7011	QETN1AM-227	E CAPACITOR	220µF,10V
C7019	QDVB1EZ-223Y	CAPACITOR	0.022µF,25V
S7001	QSW0456-002Z	TACT SWITCH,POWER	
S7002	QSW0456-002Z	TACT SWITCH,CH+	
S7003	QSW0456-002Z	TACT SWITCH,CH-	
S7004	QSW0456-002Z	TACT SWITCH,REC	
S7005	QSW0456-002Z	TACT SWITCH,PAUSE	
S7006	QSW0456-002Z	TACT SWITCH,PLAY	
S7007	QSW0456-002Z	TACT SWITCH,STOP/EJECT	
S7010	QSW0456-002Z	TACT SWITCH,TBC	
S7011	QSW0456-002Z	TACT SWITCH,TIMER	
S7012	QSW0456-002Z	TACT SWITCH,REVIEW	
S7013	QSW0456-002Z	TACT SWITCH,REC LINK	
S7014	QSW0456-002Z	TACT SWITCH,SP/LP	
S7015	QSW0456-002Z	TACT SWITCH,SYNC.EDIT	
S7016	QSW0456-002Z	TACT SWITCH,INSERT	
S7017	QSW0456-002Z	TACT SWITCH,A.DUB	

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		DI7001	QLF0032-002	FL TUBE	
		HD1	LP30428-001A	FDP HOLDER(L),DI7001	
		HD2	LP30429-001A	FDP HOLDER(R),DI7001	
		HD3	PQM30038-2-2	LED HOLDER,D7009	
		HD4	PQM30038-1-2	LED HOLDER,D7010	
		HD5	PQM30038-2-2	LED HOLDER,D7011	
		CN7001	QGF1207C1-14	FPC CONNECTOR,(1-14)MAIN	

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SW/DISPLAY BOARD ASSEMBLY(S9600EU) <28>

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		PW1	LPA10067-01B1	DISPLAY BOARD ASSY	
		IC7001	M35500BGP	IC	
			or M35500AGP	IC	
			or M35500BFP	IC	
		IC7002	PNA4652M00XB	IR DETECT UNIT	
			or GP1U281X	IR DETECT UNIT	
		Q7001	DTC144WS	TRANSISTOR	
		Q7002	2SC1740S/QRS/-T	TRANSISTOR	
			or 2SC3199/YG/-T	TRANSISTOR	
		Q7003	2SA933AS/QRS/-T	TRANSISTOR	
			or 2SA1267/YG/-T	TRANSISTOR	
		D7002	RD9.1ES/B2/-T2	ZENER DIODE	
			or MTZJ9.1B	ZENER DIODE	
			or UZ9.1BSB	ZENER DIODE	
		D7004	1SS133	DIODE	
		D7005	1SS133	DIODE	
		D7006	1SS133	DIODE	
		D7007	1SS133	DIODE	
		D7012	1SS133	DIODE	
		D7013	1SS133	DIODE	
		D7014	1SS133	DIODE	
		R7001	QRE141J-471Y	RESISTOR	470Ω,1/4W
		R7002	QRE141J-471Y	RESISTOR	470Ω,1/4W
		R7003	QRE141J-471Y	RESISTOR	470Ω,1/4W
		R7004	QRE141J-471Y	RESISTOR	470Ω,1/4W
		R7005	QRE141J-103Y	RESISTOR	10kΩ,1/4W
		R7006	QRE141J-103Y	RESISTOR	10kΩ,1/4W
		R7007	QRE141J-103Y	RESISTOR	10kΩ,1/4W
		R7008	QRE141J-103Y	RESISTOR	10kΩ,1/4W
		R7009	QRE141J-103Y	RESISTOR	10kΩ,1/4W
		R7010	QRE141J-153Y	RESISTOR	15kΩ,1/4W
		R7013	QRE141J-103Y	RESISTOR	10kΩ,1/4W
		R7020	QRE141J-103Y	RESISTOR	10kΩ,1/4W
		R7021	QRE141J-122Y	RESISTOR	1.2kΩ,1/4W
		R7022	QRE141J-182Y	RESISTOR	1.8kΩ,1/4W
		R7023	QRE141J-222Y	RESISTOR	2.2kΩ,1/4W
		R7024	QRE141J-272Y	RESISTOR	2.7kΩ,1/4W
		R7025	QRE141J-472Y	RESISTOR	4.7kΩ,1/4W
		R7026	QRE141J-682Y	RESISTOR	6.8kΩ,1/4W
		R7027	QRE141J-153Y	RESISTOR	15kΩ,1/4W
		R7028	QRE141J-393Y	RESISTOR	39kΩ,1/4W
		R7030	QRE141J-103Y	RESISTOR	10kΩ,1/4W
		R7031	QRE141J-122Y	RESISTOR	1.2kΩ,1/4W
		R7032	QRE141J-182Y	RESISTOR	1.8kΩ,1/4W
		R7033	QRE141J-222Y	RESISTOR	2.2kΩ,1/4W
		R7034	QRE141J-272Y	RESISTOR	2.7kΩ,1/4W
		R7035	QRE141J-472Y	RESISTOR	4.7kΩ,1/4W
		R7036	QRE141J-682Y	RESISTOR	6.8kΩ,1/4W
		R7037	QRE141J-153Y	RESISTOR	15kΩ,1/4W
		R7038	QRE141J-393Y	RESISTOR	39kΩ,1/4W
		R7040	QRE141J-331Y	RESISTOR	330Ω,1/4W
		R7041	QRE141J-331Y	RESISTOR	330Ω,1/4W
		R7042	QRE141J-331Y	RESISTOR	330Ω,1/4W
		R7044	QRE141J-104Y	RESISTOR	100kΩ,1/4W
		R7045	QRE141J-102Y	RESISTOR	1kΩ,1/4W
		R7046	QRE141J-394Y	RESISTOR	390kΩ,1/4W
		R7047	QRE141J-101Y	RESISTOR	100Ω,1/4W
		R7048	QRE141J-472Y	RESISTOR	4.7kΩ,1/4W
		C7001	QCFB1HZ-104	CAPACITOR	0.1μF,50V
		C7002	QETC1HM-106	E CAPACITOR	10μF,50V
		C7007	QETN1HM-476	E CAPACITOR	47μF,50V
		C7009	QCSB1HJ-150	CAPACITOR	15pF,50V
		C7010	QCFB1HZ-104	CAPACITOR	0.1μF,50V
		C7011	QETN1AM-227	E CAPACITOR	220μF,10V
		C7019	QDVB1EZ-223Y	CAPACITOR	0.022μF,25V
		C7022	QDVB1EZ-223Y	CAPACITOR	0.022μF,25V
		C7192	QCBB1HJ-681	CAPACITOR	680pF,50V
		C7194	QCBB1HJ-681	CAPACITOR	680pF,50V
		L7191	QRE141J-101Y	RESISTOR	100Ω,1/4W
		L7192	QRE141J-101Y	RESISTOR	100Ω,1/4W
		S7001	QSW0456-002Z	TACT SWITCH,POWER	
		S7002	QSW0456-002Z	TACT SWITCH,A.MONITOR	
		S7003	QSW0456-002Z	TACT SWITCH,C.RESET	
		S7004	QSW0456-002Z	TACT SWITCH,OK	
		S7005	QSW0456-002Z	TACT SWITCH,RAE	
		S7006	QSW0456-002Z	TACT SWITCH,PROGRAM	
		S7007	QSW0456-002Z	TACT SWITCH,STOP/EJECT	
		S7008	QSW0456-002Z	TACT SWITCH,MARK	
		S7009	QSW0456-002Z	TACT SWITCH,ERASE	
		S7010	QSW0456-002Z	TACT SWITCH,TBC	
		S7011	QSW0456-002Z	TACT SWITCH,SP/LP	
		S7012	QSW0456-002Z	TACT SWITCH,TIMER	
		S7013	QSW0456-002Z	TACT SWITCH,REC LINK	
		S7014	QSW0456-002Z	TACT SWITCH,TV/VCR	
		S7015	QSW0456-002Z	TACT SWITCH,SYNC.EDIT	
		S7016	QSW0456-002Z	TACT SWITCH,REVIEW	
		S7017	QSW0456-002Z	TACT SWITCH,DISPLAY	
		DI7001	QLF0032-002	FL TUBE	
		HD1	LP30428-001A	FDP HOLDER(L),DI7001	
		HD2	LP30429-001A	FDP HOLDER(R),DI7001	
		J7191	PEMC1126-04	PIN JACK,VIDEO IN	
		J7192	PEMC0922-03	PIN JACK(SW),A(L)IN	
		J7193	PEMC0922-02	PIN JACK(SW),A(R)IN	
		J7194	QND0010-001	S JACK,S VIDEO	
		CN7001	QGF1207C1-14	FPC CONNECTOR,(1-14)MAIN	
		CN7002	QGF1202C1-08	FPC CONNECTOR,(1-8)DOOR	
		CN7191	QGF1207C1-05	FPC CONNECTOR,(3-7)MAIN	
		CN7192	QGF1207C1-04	FPC CONNECTOR,(1-4)MAIN	

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REC SAFETY BOARD ASSEMBLY(S8600EU) <32>

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION
		PW2	LPA10056-01A2	REC SAFETY BOARD ASSY
		S7041	QSW0602-003	PUSH SWITCH
		FW7001	QUM032-07A4A4	PARA RIBON WIRE

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REC SAFETY BOARD ASSEMBLY(S9600EU) <32>

REF No.	PART No.	PART NAME, DESCRIPTION	
PW2	LPA10067-01B2	REC SAFETY BOARD ASSY	
S7041	QSW0602-003	PUSH SWITCH	
FW7001	QUM032-07A4A4	PARA RIBON WIRE	

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JACK BOARD ASSEMBLY(S8600EU) <36>

REF No.	PART No.	PART NAME, DESCRIPTION	
PW4	LPA10056-04A4	JACK BOARD ASSY	
C7192	QCBB1HJ-681	CAPACITOR	680pF,50V
C7194	QCBB1HJ-681	CAPACITOR	680pF,50V
L7191	QRE141J-101Y	RESISTOR	100Ω,1/4W
L7192	QRE141J-101Y	RESISTOR	100Ω,1/4W
J7191	PEMC1009-04	PIN JACK,VIDEO IN	
J7192	PEMC1010-03	PIN JACK(SW),A(L)IN	
J7193	PEMC1010-02	PIN JACK(SW),A(R)IN	
J7194	QND0009-001	S JACK,S VIDEO	
CN7191	QGF1207F1-05	FPC CONNECTOR,(3-7)MAIN	
CN7192	QGF1207F1-04	FPC CONNECTOR,(1-4)S-SUB	

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JOG BOARD ASSEMBLY(S8600EU) <37>

REF No.	PART No.	PART NAME, DESCRIPTION	
PW2	LPA10056-01A3	JOG BOARD ASSY	
UN7091	PEME0976	JOG ASSY	
CN7005	QGF1207F1-06	FPC CONNECTOR	

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LOADING MOTOR BOARD ASSEMBLY <55>

REF No.	PART No.	PART NAME, DESCRIPTION	
PW2	LPA10010-01A2	LOADING MOTOR BOARD ASSY	
C1	QFV61HJ-104	F CAPACITOR	0.1μF,50V
OT1	PU59915-105	#500SPACER0.01,C1	
CN1	QGB2533K1-02	CONNECTOR	

JVC

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VIDEO DIVISION

S40894

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